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John Locke on Women's rationality

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Abstract: Feminist scholars deny that Locke attributed women a level of rationality identical to that of men; Nancy Hirschmann agrees with this claim, yet she insists that Locke did not conceive of this difference as natural but rather as artificially constructed through the sexual division of labour. This paper contends that sound evidence in Locke's works suggests that the opposite was true: in *Some Thoughts concerning Education* he criticized mothers' irrationality, and elsewhere he described women as easy prey for vehement passions, which could hardly be reconciled with rational behaviour. As a physician, Locke fully agreed with the medical literature of his time, which viewed women's rational ability as naturally inferior to men's because of their weak physical constitution.

Keywords: Locke; women; rationality; motherhood; education; passions; physics.

1. *Introduction*

John Locke is a hotly contested figure in feminist thought. A substantial role in sparking feminist debate on his ideas has been played by two seminal essays by Melissa Butler and Mary Shanley, which appeared respectively in 1978 and 1979. Both Butler and Shanley claimed that Locke's theory contained the seeds of feminism; they highlighted the significant, if ambiguous role which gender played in Locke's political thought. In their view, Locke took the premises of the natural freedom and equality of family members more seriously than previous thinkers, strengthening the liberal arguments concerning the voluntary origin of all obligations, yet he rejected the notion that familial and civil authority were analogous. In the first of his *Two Treatises of Government*, Locke denounced the patriarchal system as being tyrannical both within the state and the family, each in its own way a violation of natural rights; when discussing the story in Genesis, he insisted on Eve's inclusion in the grant of "*Dominion* over the Creatures, or *Property* in them", and denied that God had granted Adam "Political power over… [Eve], much less over any body else" (1960: I, 29, 161; I, 48, 174). Similarly, in the second of the *Two Treatises* Locke

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invoked the notion of the social contract to propose a shift from a patriarchal to a contractual form of marriage: he declared that marriage "leaves the Wife in full and free possession of what by contract is her peculiar Right, and gives the Husband no more power over her Life, than she has over his" (II, 82, 321). A wife retained the freedom to separate from her husband; however, Locke also recommended that, except for female rulers, women should allow their husbands ultimate control over their affairs. They had no prospect of citizenship, propertied or not; they had the right to retain property brought with them into the marriage, but received no control at all over the income they, or their husbands, generated thereafter. Men had complete control over family affairs; their decisions were the rule to be obeyed even in matters of "common Interest", since they were "the abler and the stronger" (II, 82, 321).

Butler and Shanley attempted to reconcile these assertions with their view of Locke as being actively engaged in promoting gender equality amongst family members. By contrast, a number of feminist scholars have accused Locke of perpetuating biological or socio-biological arguments for men's dominance over women; they have insisted that the new "freedom of contract" advocated in the *Two Treatises* masked background relations of unequal power, based on a view of women as naturally lacking in rationality.[1] Locke would have endorsed the Aristotelian view of women, in which they were, like slaves, a husband's property, neither regarded as equals within marriage nor by the state. The role played by mothers in Locke's *Some Thoughts concerning Education* was merely ancillary, in these scholars' view, and endorsed his opinion that women should be subject to male authority (Wallace 1991: 19).

A more moderate opinion has been expressed recently by Gordon Schochet, who has claimed that Locke's slow whittling away of patriarchal presumptions held radical consequences for the status of women. Schochet maintains that Locke's anti-patriarchalism "created the theoretical possibility of full political membership for women", even if he "was not an egualitarian on any grounds, hardly least among them, sexual".[2]

Nancy Hirschmann agrees with Schochet: she notes that, although Locke's works attest to his being quite progressive for his times, he was hardly an advocate of gender equality. Like feminist scholars, Hirschmann believes that Locke viewed women as less rational than men; unlike them, she thinks that he did not

[1] Brennan and Pateman (1979). Pateman (1988) insisted that Locke's conception of the social contract was based on the idea of a natural sexual difference, which entailed difference in rationality. Men alone were endowed with attributes and capacities to enter into contracts, for Locke.

[2] Schochet (1998: 221) and (2007: 149). Schochet maintains critical distance from Jeremy Waldron, who reads Locke as a radical egalitarian for whom equality between the sexes represented "an axiom of theology" (2002: 6; 2007: 241-267).

believe that women were naturally worse at reasoning but rather that this lack was "artificially constructed through the social relations of labor and the sexual division of labor" (2007: 169). Hirschmann notes that, in Locke's view, education was the key difference: he believed that the "defects and weaknesse in mens understandings as well as other faculties come from want of a right use of their owne minds" (Locke 2000: 159; Hirschmann 2007: 169). Locke would not deem it impossible for women to increase their intellectual abilities, but would consider it as useless, in Hirschmann's view: women would not have time or energy to develop reason, because of their domestic duties and their role in reproduction.

Hirschmann's interpretation seems to me too generous. Locke was a physician; substantial evidence points to his considering women as naturally prone to vehement passions, in perfect agreement with the medical literature of his time. Rationality, in Locke's opinion, was closely linked to self-dominance; women could hardly be expected to achieve complete dominance over themselves, because of the power vehement passions exerted over their psyche. Their strong emotional attachment to their children rendered them unfit for Locke's masculine project of education; men were "the abler and the stronger" because of their ability to regulate their emotions.

To support my view, in the first paragraph I shall dwell on the role played by mothers in *Some Thoughts concerning Education*, which could scarcely be interpreted as supporting equality between the sexes; in the second paragraph I shall consider the enormous power which Locke, as well as several other seventeenth-century natural philosophers, attributed to vehement passions on women's psyche and the causes of this weakness, which could not be mended by education.

2. *Locke on women's education*

According to Melissa Butler, Locke advocated equal education for girls, with minor modifications which had primarily to do with protecting their complexions from being damaged by the sun (1978: 148). Certainly, the idea that women should enjoy equal access to quality education had begun to circulate in Locke's time, although in restricted groups; a staunch advocate of this idea was Mrs. Bathsua Makin, a scholar with extensive learning and one of the champions of her sex. Mrs. Makin claimed that it was wrong to consider women as unfit for liberal education; she criticized the opinion which described them in such unfavourable terms:

> Women do not much desire Knowledge; they are of low parts, soft fikle natures, they have other things to do they will not mind if they be once Bookish: The end of

Learning is to fit one for publick Employment, which women are not capable of…And that which is worst of all, they are of such ill natures, that they will abuse their Education, and be so intolerably Proud, there will be no living with them: If all these things could be answered, they would not have leisure. (1673: 6)

Two decades later, Daniel Defoe firmly rejected female intellectual inferiority; he wrote,

I have often thought of it as one of the most barbarous Customs in the World, considering us as a Civiliz'd and a Christian Countrey, that we deny the advantages of Learning to Women. We reproach the Sex every day with Folly and Impertinence, while I am confident, had they the advantages of Education equal to us, they wou'd be guilty of less than our selves (1697: 282).

In the last decades of the seventeenth century, a process of enlightenment had begun, vigorously assisted by the English writer Mary Astell. Astell was the most capable champion of the "fair" sex in the seventeenth century; in *A serious Proposal to the Ladies*, she challenged the prejudice about women's intellectual inferiority and claimed that their avowed incapacity was acquired, not natural. Men were culpable of women's ignorance and silliness, because they denied them the "benefits of an ingenuous and liberal Education"; challenging their prejudices, Astell urged women to furnish their "minds with a stock of solid and useful knowledge" (2002: 61-62; 77). The expression "useful knowledge" was frequent in *Some Thoughts*; Astell must have known Locke's works well.[3] Her purpose, however, was quite different from Locke's. Astell aimed at promoting a sound education inculcating a good understanding in women, uprooting their ignorance and creating the right conditions for enhancing their religious piety; Locke thought of a liberal, not pedantic *paideia* able to prepare the gentleman for his future responsibilities.

Some Thoughts was a manual of advice to fathers; female education was not one of its topics. One may suppose that when Locke's close friend William Molyneux, a keen reader and admirer of *Some Thoughts,* wrote to him that "Girls Minds require as much Framing, as the Boys, and by the same Rules",[4] he was drawing his attention to a fault in his book, not a virtue of it. Locke might have perceived this omission; in the first paragraphs of *Some Thoughts* he had written,

[3] See Perry (1986). Astell was a keen reader of the *Essay*; later, she launched a serious attack on Locke in her *The Christian Religion, as professed by a Daughter of the Church of England*, her longest and most sophisticated work of moral philosophy. The book was published in 1705, a few months after Locke's death. Astell's criticism was addressed to Locke's unorthodox religious opinions.

[4] William Molineux to Locke, 4 October 1697, in Locke (1981: 222).

the principal aim of my Discourse is, how a young Gentleman should be brought up from his infancy, which, in all things, will not so perfectly suit the Education of *Daughters*; though where the difference of Sex requires different treatment, 'twill be no hard matter to distinguish (1989: § 6, 86).

As a matter of fact, Locke did not seem to be eager to bring traditional views on female education into question. The "difference of sex" demanded different treatment: this was an obvious truth in his view, which did not require any further investigation. Women should be prepared for motherhood: this was all that was expected from them. Their course of studies should fit this purpose: as future mothers, women only needed to have a level of instruction sufficient to provide for their children's learning during the first ten years of their life. They were not expected to study classical languages; mothers could assist in their sons' learning Latin, and thereby learn it themselves, but only because this might prompt their children to view Latin as an easy subject. In Locke's terms,

whatever stir there is made about getting of *Latin*, as the great and difficult business, his Mother may teach it him her self, if she will but spend two or three hours in a day with him, and make him read the Evangelists in *Latin* to her: For she need but buy a *Latin* Testament, and having got somebody to mark the last Syllable but one, where it is long, in Words above two Syllables, (which is enough to regulate her Pronunciation and Accenting the Words) read daily in the *Gospels*, and then let her avoid Understanding them in *Latin* if she can. And when she understands the Evangelists in *Latin*, let her, in the same manner, read *Aesop's fables*, and so proceed on to *Eutropius*, *Justin*, and other such Books. (1989: § 177, 234)

Girls were not expected to study either Latin, logic or rhetoric; Locke seemed to appreciate their learning French from a mother-tongue governess, a method of learning foreign languages he also recommended for males.[5] Moreover, he considered a good command of English to be essential for both sexes, albeit not in the same measure and for different reasons. Being able to express yourself well both in writing and speaking was a distinctive quality of the gentleman; his dignity, as well as his business, demanded this.[6] For mothers,

[5] Locke (1989: § 165, 218). Locke seemed to be surprised that this method for teaching foreign languages was not used with boys: he wrote, "And when we so often see a *French*-Woman teach an *English*-Girl to speak and read *French* perfectly in a Year or Two, without any Rule of Grammar, or any thing else but prattling to her, I cannot but wonder, how Gentlemen have over-seen this way for their Sons, and thought them more dull or incapable than their Daughters". There might be a touch of irony in this remark.

[6] Locke (1989: § 189, 241): "There can scarce be a greater Defect in a Gentleman, than not to express himself well, either in Writing or Speaking".

knowing English was only meant to make them able to support their children in practising their own language; this task however, noted Locke, might also be performed by someone else.[7] A mother was not expected to excel in this knowledge: Locke remarked that it was ridiculous that "the Boy's Mother (despised, 'tis like, as illiterate, for not having read a System of *Logick* and *Rhetorick*) outdoes him in it" (1989: § 189, 243).

As for other subjects, Locke praised a mother of his own acquaintance who had taught her son the rudiments of geography; later, a tutor would finish off her work.[8] Mothers were not expected to assist in this subsequent phase of learning; this was not their business. It is unclear whether mathematics, which Locke viewed as fundamentally important in developing a capacity for abstract reasoning, was included in female instruction; overall, the course of studies he counselled women to adopt was practical, rather than abstract or metaphysical. It was suited for preparing them for their role in society, not for developing their powers of reasoning.

A passage in *Some Thoughts* might suggest that women's education was to be improved somehow; Locke wrote,

> I have seen little Girls exercise whole Hours together, and take abundance of pains to be expert at *Dibstones*, as they call it: Whilst I have been looking on, I have thought, it wanted only some good Contrivance to make them employ all that Industry about something that might be more useful to them; and methinks 'tis only the fault and negligence of elder People, that it is not so. (1989: § 152, 210)

Locke was concerned about preventing young children from being idle; the example of a useful pastime he cited (a game to teach the alphabet), illustrated what kind of improvements he had in mind for young girls. This was quite unlike Mrs. Makin's idea of female instruction, including the study of grammar, rhetoric, logic, physics, languages (particularly Greek and Hebrew) and mathematics.

Improving female education was not, as a matter of fact, one of Locke's concerns in *Some Thoughts.* He seemed to be much more interested in highlighting mothers' mistakes: in the first part of the book, devoted to bringing up children, he advised mothers against several types of behaviour which might

[7] Locke (1989: § 163, 216-217): "Care is to be taken, whilst he is learning these Foreign Languages, by speaking and reading nothing else with his Tutor, that he do not forget to read *English*, which may be preserved by his Mother, or some-body else, hearing him read some chosen Parts of the Scripture, or other *English* Book every Day".

[8] Locke (1989: § 178, 233). The mother was Locke's friend Lady Masham. Locke hastened to clarify that what the mother had taught to her child was not all that he was to learn, but "a good step and preparation" to it.

impair their children's health and even prejudice their education. Mothers were warned against the harm which "cockering and tenderness" could do to their children's constitutions (1989: § 4, 84), and ridiculed for being eager to mend any imperfection in their babies;[9] they were reproached for covering their children up too much,[10] encouraging bad eating habits,[11] and being over-indulgent towards their children's whims.[12] Mothers were also warned against stimulating their daughters' vanity by buying them new clothes (1989: § 37, 106); the mistakes of "fond mothers" were likened to those of "foolish servants". A mother's conduct towards her children had to conform to the father's in all respects: she should follow her husband's example in showing disappointment or appraisal to her children, whenever their actions demanded so.[13] Locke seemed to suggest that fathers would take over the instruction of their children during adolescence, whereas in the earliest years mothers would be in charge of their education; however, it seemed to be clear that mothers were not allowed to take any decisions on their own concerning their sons, even in their earlier years. Locke praised a "prudent and kind mother" of his own acquaintance who had been able to prevail upon her daughter's stubbornness by beating her several times, and another mother who had complied with her daughter's desire to have pets but only on condition that she took full responsibility for them: in both cases, he was referring to daughters, not sons (1989: § 78, 139; § 116, 180-181).

The narrow margin of freedom Locke granted mothers in decision making, and the many mistakes against which he warned them, suggest that he might not view them as equal partners in education; their tender feelings towards

[9] Locke (1989: § 11, 90): "And if Women were themselves to frame the Bodies of their Children in their Wombs, as they often endeavour to mend their Shapes when they are out, we should as certainly have no perfect Children born, as we have few well-shaped that are *strait-laced*, or much tamper'd with". Mothers were also warned against obliging their children to wear uncomfortable dresses to look fashionable.

[10] Locke (1989: § 5, 85; § 7, 86). Locke suggested young children should wash their feet every day in cold water; he commented, "Here, I fear, I shall have the Mistriss and Maids too against me".

[11] Locke (1989: § 13, 92): "This I am sure, Children would breed their Teeth with much less danger, be freer from Diseases whilst they were little, and lay the Foundations of an healthy and strong Constitution much surer, if they were not cram'd so much as they are, by fond Mothers and foolish servants, and were kept wholely from Flesh the first three or four Years of their Lives".

[12] Locke (1989: § 18, 95): "I believe Mothers generally find some Difficulty to wean their Children from *Drinking* in the Night, when they first take them home. Believe it, Custom prevails, as much by Day as by Night; and you may, if you please, bring any one to be thirsty every Hour". In Locke (1989: § 22, 99), the image of the "Mother's fine Gilt Cup" was used to refer to those excessive comforts which children should learn to do without.

[13] Locke (1989: § 124, 187). Locke recommended a gentleman should take care that the child's "Mother, Tutor, and all about him" followed his example in showing approbation or dislike towards him.

their children were an obstacle in such a fundamental enterprise, in his opinion. A mother's emotional attachment was something natural for Locke, and as such was not to be disapproved of: when criticizing the custom of teaching children the dangerous art of fencing in *Some Thoughts*, he appealed to the tears of those mothers who had been deprived of their sons because of this imprudence (1989: § 199, 254). However, female emotional sensitivity was incompatible with the masculinity of Locke's ideal of education;[14] women were not fit for such a project. The stoical "brawniness and insensibility of Mind" (1989: § 113, 173) which he recommended to be instilled into children's minds were not within the reach of "fond mothers": from the very first pages of *Some Thoughts,* Locke foretold that they would not accept his doctrine. (1989: § 7, 87) Mothers would deem his method "too hard", whereas fathers would consider it "too short";[15] the content of *Some Thoughts* showed that Locke considered this latter opinion as entirely reasonable. Fathers would be worried about their children's being sufficiently refined in manners by education, as required for their future dignity: Locke took this concern seriously in his book. Mothers, on the other hand, would not been thinking of the future dignity of their sons, but only of their own strong attachment; even in later years, their tender feelings might represent a serious obstacle to perfecting their children's education. Mothers would long to have their sons married off quickly, so as to enjoy the company of new babies; fathers too might be tempted to hasten their marriage, but for economic reasons. They would be thinking of the passing down of property, a topic of the utmost importance to Locke (1989: § 216, 265). Even regarding their daughters' education, a mother's attachment might be a hindrance: they should "force" themselves to whip them when necessary. (§ 78, 139) In any case, it would be unnatural for them to act wisely for their offspring's good.

One might say that custom was, in Locke's view, responsible for a mother's many mistakes: if better educated, women might successfully overcome those defects of their own understanding which made them unfit for being more involved in his educational project. Butler seemed to suggest this when she noted that, in a letter to Mary Clarke (the wife of Edward Clarke, the dedicatee of *Some Thoughts*), Locke wrote, "Since therefore I acknowledge no difference of sex in your mind relating […] to truth, virtue and obedience, I think well

[14] Masculinity was essential in seventeenth-century idea of gentility, as Solinger (2012) clarifies. The strong ideal of virility which prevailed in late seventeenth-century writings on education made some teachings, music for instance, unsuitable for young boys; Locke's *Some Thoughts* fully conformed to this ideal. See Di Biase (2015).

[15] Locke (1989: § 4, 84). Locke was referring to his rule that "gentlemen should use their children, as the honest farmers and substantial yeomen do their".

to have no thing altered in it from what I have writ".[16] The principles of his treatise were therefore, in Locke's view, equally applicable to both sexes: but which principles? He was thinking of moral principles, not of instruction. In *Some Thoughts,* he insisted that children were to be taught not to lie, to obey their parents and to be virtuous; virtue was what mattered the most, and the true scope of education. However, boys had formidable support in this regard: they could study the "Wise and Useful Sentences" of classical authors such as Horace, Seneca and Cicero, who emphasized the importance of wisdom, temperance, fortitude and all the other virtues in human life (1989: § 176, 233); they could be instructed as to the great significance of prudence by studying history. Their "discreet, sober and wise" tutors would support them thanks to their knowledge of "the Ways, the Humors, the Follies, the Cheats, the Faults of the Age he [the child] is fallen into, and particularly of the Country he lives in" (1989: § 90, 148; § 94, 152). This knowledge was essentially what Greek and Roman writers excelled in, for Locke; it was to be gradually instilled by the tutor into his pupil's mind, in order to disclose to him what "lies at the bottom" of the manifold appearances which cover men's pretences, and render him able to "guess at, and beware of, the Designs of Men he hath to do with, neither with too much Suspicion, nor too much Confidence" (1989: § 94, 152). All this support, however, was reserved for boys; girls should learn how to be virtuous from their mothers. But how could those "fond mothers" whose mistakes Locke likened to those of "foolish servants" be adequate for such an enterprise? We may suppose that the degree of virtue a gentleman should possess, in Locke's view, was not the same as that required of the other sex. He noted that modesty was particularly appropriate to a girl (1989: § 60, 118); "the retirement and bashfulness" in which daughters were usually brought up were not to be criticized, in his view (§ 70, 129). He agreed with customary female education in this regard; he did not seem to expect more from women than what custom required of them. The development of right reason was not among these requirements.

The only transgressions to custom Locke seemed to encourage regarding female education were motivated by physical health. Contrary to the common opinion that girls should avoid playing outdoor, because of the negative cosmetic effects of the sun, Locke recommended females should take part in abundant outdoor activity; he wrote,

> although greater Regard be to be had to Beauty in the Daughters, yet I will take the Liberty to say, that the more they are in the *Air*, without prejudice to their Faces,

[16] Locke to Mrs. Mary Clarke, 7 February 1684, in Locke (1976: 686).

the stronger and healthier they will be; and the nearer they come to the Hardships of their Brothers in their Education, the greater Advantage will they receive from it, all the remaining Part of their Lives. (§ 9, 89)

The "masculine" kind of physical activity Locke recommended for females was no doubt connected to his medical expertise, as witnessed by the considerable amount of advice regarding hygiene filling the pages of *Some Thoughts*; he seemed to agree with the physician Thomas Sydenham, whose talent he celebrated in the *Essay*, concerning the importance of physical activity in preventing some diseases. Sydenham had devoted special attention to hysteria, a female distemper which was of great interest at that time, given the diverse ideas relating it to the uterus or to psychological and physiological causes; he believed that hysteria, like other diseases, could be cured by a "cooling regimen" consisting in "refreshing" the blood. Sydenham noted that women did not always benefit from such a regimen because of their sedentary life (1716: 399); as a physician, Locke seemed to agree with him. He recommended horse riding to some of his female patients, an activity which was part of Sydenham's cooling regime, and in *Some Thoughts* praised women playing outdoor, to a certain extent. Girls should try to be more like their brothers by enduring the "hardships" of physical activity, for this might protect them from future diseases; but what about their enduring the "hardships" of cultivating their own minds? Locke remained silent on this topic; he did not advocate any change in the usual way of educating women, apart from recommending a certain degree of austerity. Since the development of reason depended on education, it is unclear how, in Locke's view, women could eventually be able to think as rationally as an educated man.

I suspect that Locke's answer would be that they could not: men were "abler and stronger", in his opinion. In the *Two treatises of Government* he made it clear that women's lot was procreation and subjection to their husbands, as stated in Genesis.[17] Locke was opposed to a political reading of Adam's supremacy over Eve, which would grant him power of life and death over her, but insisted that there was "a Foundation in Nature" for her subjection (1960: I, 47, 174); nature, not custom was responsible for the inequality of power between the two sexes. This was the reason why "every Husband hath to order the things of private Concernment in his Family, as Proprietor of the Goods and Land there, and to have his Will take place before that of his wife in all things of their Common Concernment" (1960: I, 48, 174).

[17] The true meaning of God's curse on Eve for Locke was to establish "what should be the Womans Lot, how by his Providence he would order it so, that she should be subject to her husband". See Locke (1960: I, 47, 174).

Arguably, the inferiority Locke attributed to women depended on their being less rational than men; their mind, as well as their body, was less able to endure the "hardships" of life. Rationality for Locke demanded self-dominance;[18] women were less able to achieve this, because of the power exerted by vehement passions over their minds. This power could not be attenuated by education in his view, as I shall argue in the following paragraph.

3. *Locke on women's passions*

In 1697, Locke wrote *Of the Conduct of the Understanding* as a chapter to be added to the *Essay*;[19] like *Some Thoughts*, the *Conduct* was addressed to a general public of gentlemen, namely of "men of little businesse and great leisure" (2000: § 44, 187). In the *Conduct*, Locke considered both the causes which lead us to fail to reason as we should, and the remedies which may prevent us from doing so: this explains why the work came to be regarded as a book on education. Concerning the causes, Locke distinguished between external and internal factors: some errors arose because of extraneous causes, some others because of flaws in our understanding. In the first case, the main cause of error was an '*uneasiness* of desire' which usually took the form of passion; unless passions were brought under control, their influence on our will was such as to mislead judgment and make our reason biased.

Locke admitted that control over intense passions was a task of the utmost difficulty; in the *Essay*, he affirmed that a "boisterous Passion hurries our Thoughts, as a Hurricane does our Bodies, without leaving us the liberty of thinking on other things" (1975: II, xxi, 12, 239-240). Turbulent passions disturbed the memory and misled our judgment (II, x, 7, 152-153; II, xxi, 67, 278); "predominant passions" were one of the causes of our suspending our assent to propositions supported by "real Probabilities" (IV, xx, 7, 711). Similarly, in the *Conduct* Locke insisted that vehement passions such as "Love, or Anger Fear or Grief" deprived reason of its liberty, so that the mind became unable to focus on its object (2000: § 88, 238); he gave an interesting example in this regard, which involved both sexes. He wrote,

A prevaileing passion so pins down our thoughts to the object and concerne of it That a man passionately in love can not bring himself to think of his ordinary affairs,

[18] See Locke (1989: § 33, 103): "As the Strength of the Body lies chiefly in being able to endure Hardships, so also does that of the Mind. And the great Principle and Foundation of all Vertue and Worth, is placed in this, That a Man is able to *deny himself* his own Desires, cross his own Inclinations, and purely follow what Reason directs as best, tho' the appetite lean the other way".

[19] The text was first published in 1706, as part of Peter King's *Posthumous Works of John Locke.*

nor a kind mother drooping under the loss of a child is not able to bear a part as she was wont in the discourse of the company or conversation of her friends. (§ 91, 239)

The same example would reappear in the fourth edition of the *Essay* (1700), but with some important modifications. The case of the bereaved mother was used to illustrate the mechanism of the association of ideas, which in the *Conduct* was described as one of the causes of errors depending not on external factors such as passions, but rather on defects in our understanding. In the *Essay*, Locke gave several examples of this mechanism: he first mentioned the case of a man who, having received some injury from another, became unable to think of the latter without experiencing pain, then the case of a man who having suffered some pain in a certain place, could not think of that place without displeasure. Finally, he referred to the mother afflicted by grief because of the loss of her child. He wrote,

The Death of a Child, that was the daily delight of his Mother's Eyes, and joy of her Soul, rends from her Heart the whole comfort of her Life, and gives her all the torment imaginable; use the Consolations of Reason in this case, and you were as good preach Ease to one on the Rack, and hope to allay, by rational Discourses, the pain of his Joints tearing asunder. Till time has by disuse separated the sense of that Enjoyment and its loss from the Idea of the Child returning to her Memory, all Representations, though never so reasonable, are in vain; and therefore some in whom the union between these Ideas is never dissolved, spend their Lives in Mourning, and carry an incurable Sorrow to their Graves (1975: II, xxxiii, 13, 398-399).

In the *Conduct*, Locke described the wrong association of ideas as the most interesting instance of the nefarious influence of "the empire of habit" (2000: § 77, 229); habits were not to be intended as inborn attitudes - a fundamental principle in Locke's psychology, which conceived of the child's mind at birth as a blank slate -, but rather as a subsequent natural development of the mind. Habits were built by repetition, Locke affirmed in *Some Thoughts*; they could not change individual "Original Tempers" radically, yet they could modify them to a certain extent (1989: § 66, 122). Right habits of thinking and of determining the will were to be inscribed early in the child's mind, since it was very difficult to eradicate wrong ones later.

The particular danger in the wrong association of ideas for Locke was that it corrupted the very basic material of our own reasoning: the mind became unable to perceive the agreement or disagreement of its individual ideas, and became fully addicted to erroneous principles. In the *Conduct*, Locke affirmed that the best remedy for error was mental exercise or practice: wrong habits must be prevented or cured by right habits provided by practice (2000: § 8, 158).

In the *Essay*, however, he seemed to be more pessimistic: he affirmed that when "this Combination is settled and whilst it lasts, it is not in the power of Reason to help us, and relieve us from the Effects of it" (1975: II, xxxiii, 13, 398). The example of the mother was employed to clarify this point: her grief was intractable by reason and could only be overcome, if ever, by time. Locke had first hand experience of women's tenacious attachment to grief and melancholic feelings; the letters of condolence he wrote to some of his females acquaintances indicated he viewed women as particularly prone to "incurable sorrow".[20] The letters contained firm recommendations on how to use reason to prevent these feelings from becoming overwhelming; he was clearly concerned about women's weakness in this regard. The example of the bereaved mother in the *Essay* highlighted this concern: only in this case did Locke mention death as a possible outcome of the mechanism of wrong association of ideas. Only in this case, not in the other examples, did he refer to a precise social role, that of the mother.[21]

The behaviour of the bereaved mother exemplified a basic form of irrationality, which went against a fundamental principle in Locke's moral psychology. In the *Essay*, he affirmed that there were two basic innate dispositions in the human mind, the desire for happiness and an aversion to misery: he wrote,

> Nature, I confess, has put into Man a desire of Happiness, and an aversion to Misery: These indeed are innate practical Principles, which (as practical Principles ought) do continue constantly to operate and influence all our Actions, without ceasing: these may be observ'd in all Persons and all Ages, steady and universal. (1975: I, iii, 3, 67)

Being natural, these principles were perfectly rational, for Locke; they represented the basis of rational behaviour. Women, however, seemed to show a certain stubborn inclination to cultivate unpleasant feelings and indulge in disruptive passions, which could hardly be reconciled with reason; this was a fault which could not be mended by education, being not the effect of a habit. A woman's psyche was deficient in some important manner.

[20] The first letter of condolence addressed to a woman in Locke's epistolary was written when he was twenty-one years old; it was addressed to a certain "T.A.E." who had lost her husband recently, and contained stoical arguments against indulging in sorrow. See Locke to T.A.E., 1653, in Locke (1976a) 14-15. Another letter was written by him several years later to Martha Lockart, who had lost her brother; in the epistolary we find only Martha's answer, which thanked Locke for his rational arguments. See Martha Lockhart to Locke, 11 Febr. 1696, Locke (1979: 532). Another of Locke's female acquaintances, Frances St. John, received a letter of condolence from him in 1700; see Francis St. John to Locke, 16 Feb. 1700, in Locke (1982: 12). Frances was perplexed about Locke's rational way of treating bereavement.

[21] Regarding Locke's stoical attitude towards grief and vehement passions in general, see Di Biase (2016).

Locke had had personal experience of this deficiency in women's psyche: his correspondence with one of his female acquaintances, Margaret Beavis, highlighted this. Locke and Margaret were close friends; she showed a strong propensity to sympathize with others' sufferings, which had led her to depression. Locke thoroughly disapproved of her overindulgent attitude towards sorrow; he forbade her such feelings, which were impairing her mental and physical health. Margaret protested against such an imposition: was not compassion one of God's commandments? Locke's answer was illuminating: he maintained that he did not want Margaret to behave uncivilly towards her acquaintances, yet he insisted that "to a rationall creature one should not need to make use of arguments to perswade her to be happy, the first degree whereof is to be rid of trouble and vexation".[22] Indulging in sorrow was against reason; Margaret seemed to be particularly prone to this irrational kind of behaviour.

Locke had experienced this indulgence even in the case of his close friend the learned Damaris Cudworth Masham, the daughter of the renowned Neoplatonist Ralph Cudworth[23]; Locke celebrated her intellectual talent in a letter addressed to one of his friends, the Remostrant theologian Philippus van Limborch.[24] Lady Masham often suffered from a melancholic mood which she attributed to various causes;[25] Locke suggested she might read Stoical philosophers (a piece of advice for melancholic women quite à la mode in the seventeenth century). Lady Masham, however, did not seem to appreciate these authors; she lamented "the Changableness and Inconstancies of …[her]

[22] See Locke to Margaret Beavis, 24 and 27 January 1670, in Locke (1976a: 333). Margaret Beavis, later Mrs. Blomer, was an attendant on Lady Northumberland. Writing to his friend Dr. Mapletoft, Locke noted that the harmful effects which sadness had had on Margaret were extremely different to the effect the same feeling had had on him; see Locke to Dr. John Mapletoft,10 July 1670, in Locke (1976a: 339).

[23] Locke and Damaris Cudworth became acquainted in 1682; they began to correspond in that year. Damaris married a widow, Sir Francis Masham, in 1685. Locke and Lady Masham continued to correspond during the years Locke spent in Holland; on his return to England, he became a permanent resident at Oates, Lady Masham's house. Locke's intellectual pursuits in the last years of his life were overseen by Lady Masham. See Locke's open letter to Samuel Bold in the preface to *A Second Vindication of the Reasonableness of Christianity* (1697), in Locke (2012: 36).

[24] See Locke to Philippus van Limborch, 13 March 1691, in Locke (1979a: 237-238): "The lady herself is so much occupied with the study and reflection on theological and philosophical matters that you could find few men with whom you might associate with greater profit and pleasure. Her judgment is singularly keen, and I know few men capable of discussing with such insight the most abstruse subjects, such as are beyond the grasp, I do not say of women, but even of most educated men, and of resolving the difficulties they present". Masham wrote two books, *A Discourse Concerning the Love of God* (1696) and *Occasional Thoughts in Reference to a Vertuous or Christian Life* (1705). See Masham (2004).

[25] One of these was her separation from her beloved brother, who was appointed to manage the Company of East India: see Damaris Cudworth to Locke, 14 August 1682, in Locke (1976b: 539).

Nature",[26] and complained about the world being full of illusions.[27] It is unclear how efficacious Locke's rational advice was for her.[28]

As a physician, Locke had sound reasons for fearing the power of vehement passions on women's psyche: grief, for instance, was viewed as a potentially fatal passion in the seventeenth century. Bills of mortality mentioned fear and grief among the causes of death;[29] several physicians warned against the unhealthy effects of vehement passions. In his *Anatomy of Melancholy*, the academic Robert Burton made grief one of the causes of melancholy, and claimed that this passion "overthrows the natural heat, perverts the good estate of body and mind, and makes them [those afflicted by it] weary of their lives"; he noted that women were "more violent and grievously troubled" by melancholy and other passions than men (1850: 110). A contemporary of Burton, Thomas Wright, explained that women "by nature, are enclined more to mercie and pitie than men, because the tendernesse of their complexion moveth them more to compassion". They were easily caught by vehement passions because of their "weakness and unableness to resist adversities or any other injury" (1630: 40). Other physicians of the time viewed women as easy prey for their power; they followed Aristotelian and Galenic physiology, which described women as more emotional and tending towards extremes in nature due to a lack of rational intellect (MacLean 1980: 28-46). The excessive melancholic humours and fluids in the female body, as well as their overall weak constitution, were viewed as the causes of this tendency; humours in excess could lead to dangerous physiological imbalances such as overly melancholic or choleric dispositions.[30]

Sydenham had developed his own theory in this regard. He considered vehement passions as one of the causes of hysteria; in his view, women were particularly tormented by them because of the close link between the "*outward and visible Man*" composed of "sensible parts", and the "*Internal Man*" consist-

[26] See Damaris Cudworth to Locke, 23 May 1682, in Locke (1976b: 517).

[27] See Damaris Cudworth to Locke, 28 November 1682, in Locke (1976b: 562).

[28] Locke sent a letter to Lady Masham in 1687, on the occasion of her mother's illness; Locke's letter is lost, but we may guess something of its content from Damaris' answer. She wrote, "All that you say I must owne is very Reasonable; and would not have beene I hope without some efficacie", she continued, alluding to the eventuality of her mother's death. However, Damaris added, "should that loss ever befall me, I must believe for several Reasons that few Can be Capable to judge of the Greatness of it". Lady Masham to Locke, 7 Nov. 1687, Locke (1978: 293). Damaris might have not considered Locke as one of these few, because of his "very reasonable" way of approaching grief.

[29] See "London's Bill of Mortality (December 1664-December 1665) [Official Document]", in CYH, Item 159, http://chnm.gmu.edu/cyh/items/show/159 (accessed February 29, 2020).

[30] Useful summaries of these ideas may be found in Laqueur (1992: 25-148); Ortner, Whitehead (1981); Stoller (1995: 48-82); Fletcher (1995).

ing in the "orderly Constitution of the Spirits". The "internal man" could "only be discerned by the Light of Reason"; being "intimately joyned and united to the Temperament of the Body, or Corporeal Man", he was "more or less easily disturbed and overturned, according to the strength of those Principles which Nature has endued us with". This was "the Reason that Women are more subject to these Diseases than Man, as being framed with a finer and more delicate Constitution of Body than Man are, who are fitted by Nature for a more Laborious and Active Life" (1716: 387-388).

Sydenham pathologized vehement passions; this might have influenced Locke's medical opinion on this subject, along with other important sources. As a physics student at Christ College, Oxford, he had attended the lessons of Thomas Willis, who enquired into the exact role that nerves played in emotions;[31] Willis's findings led to a revision of the language of passion and were of great significance for women in the seventeenth century. In his view, hysteric passion had its origin in the brain as a consequence of a "vehement Passion, as of fear, or Anger, or of Sadness of spirit". Women were particularly prone to these passions, because of the weak constitution of their animal spirits. Willis wrote,

> animal Spirits are in some more tender, and easily dissipable, from their very birth; so that indeed, they are not able to suffer any thing very strong or vehement, to be brought to the sense or Imagination, but strait they fly into confusions: For this Reason, women more than men, and some of them more then others, are obnoxious to the passions called Histerick. Further, sometimes a violent Passion, impresses on the spirits, though moderatly firm, this kind of dissipation and inordination, so that afterwards they are able to suffer nothing strongly, or to resist any injurie: So it often happens, that morbid impressions are affixed on the animal *regimen*, by sudden fear, or great sadness, which can hardly ever after be blotted out.[32]

A renowned philosopher of the time, Nicholas Malebranche, employed Willis's neurology to assert the natural origin of women's intellectual inferiority, which in his view was due to supposedly more sensitive nerve fibres in the female brain.[33] Malebranche attributed a superiority in taste to women,

[31] Locke took some notes on Willis's lectures concerning the origin of nervous fits; he wrote, "The antecedent causes of this fermentation or boiling are anything tending to agitate that matter; the most fertile agent being an error or excess […] for example, anger, sudden passions, terror, joy, intemperance, drunkenness". See Dewhurst (1980: 81). Willis's explanations of nerves are in Willis (1664).

[32] Willis (1681: 6-7). The work had been originally published in Latin in 1667, with the title *Pathologiae Cerebri*. On p. 37, Willis insisted that women were often tormented by "a great sadness".

[33] Malebranche (1997: 130-131). *The Search after Truth* was published in 1674-75; it was translated into English in 1694-95. In the second book, as part of an account of the errors arising from the

but also an inferiority in attentiveness and reason depending on their delicate fibres and body's influence on their minds;[34] women's ability to penetrate the truth was not equal to men's. Malebranche acknowledged that some women were tremendously learned and courageous, and that women in general were quicker than men to recognize the falsity of certain prejudices,[35] yet he maintained that the female sex was unsuited to contemplating abstract metaphysical truths, "feeble-minded", "stupid and weak", "blindly submissive" and hopelessly "superstitious" (1997: 279, 326).

Locke knew Malebranche's work well.[36]He criticized occasionalism in some manuscript notes which he left unpublished,[37] yet his views on moral psychology were surprisingly akin to Malebranche's.[38] They also agreed on the pernicious influence which women, as mother and nurses, might have on the early education of children; like Locke, Malebranche held mothers responsible for the derangement of infant minds.

I suspect that Locke's opinions on women were not too dissimilar to Malebranche's. During his life, he had become acquainted with very talented wom-

prejudices of imagination, Malebranche devoted an entire section to "The imagination of women". He argued that because brain fibres are soft and delicate in women (compared to those of most adult men), the animal spirits disturb their brains to a far greater extent. As a consequence, women do not have the concentration span to address complex questions. Regarding Malebranche's opinion on women, see Broad (2012).

[34] I would like to thank the anonymous reviewer for drawing my attention to Hamerton (2008), who highlighted the role played by the *Recherche* in the seventeenth century as an important instance of physiological gendering of sensibility and taste: Malebranche attributed a superiority in taste to women, but trivialized this property as a capacity for superficial discrimination. He criticized taste on the grounds of the body's misleading influence on the mind. I would also like to thank the reviewer for directing my attention to McCracken's work (see note 36).

[35] Malebranche (1997: 542). Malebranche attributed this superiority to the fact that women exercise greater caution in their judgments than men.

[36] Locke read Malebranche's *Recherche* in French: he owned the third edition, the first including the *Eclaircissements,* and the fourth edition. See Harrison, Laslett (1971: 182). Locke's interest in the *Recherche* dates back to his stay in France in the late seventies; at that time, Malebranche's name had became renowned in England, as is documented by McCracken (1983).

[37] Locke's criticism was prompted by John Norris, a disciple of Malebranche, who attacked the *Essay* in 1690. Locke made no reply (his friend Jean Le Clerc did it on the pages of his *Bibliothèque Universelle*); he wrote *An Examination of P. Malebranche's Opinion of seeing all things in God* (King, Collins 1706: 139-213). Locke also wrote his *Remarks upon some of Mr. Norris's Books* (Desmaizeaux 1720: 151-176). Two other manuscript notes by Locke, devoted to criticize Norris and Malebranche's opinions, are mentioned in Schuurman (2008).

[38] According to Vienne (1991), Locke was possibly influenced by Malebranche's view that the will would be able to suspend consent to the execution of desires. Locke expounded this theory in a chapter added to the second edition of the *Essay* (1979: II, xxi, 47, 263); he identified this power of the will as the source of liberty.

en, who must have appeared to be the exception rather than the rule;[39] the great majority of them were unable to use their reason properly, in his view. The medical knowledge of his time suggested women fell prey easily to vehement passions, which tended to impair their mental and physical health; Locke's epistemology made vehement passions responsible for bias creeping into reason and corrupting judgment. He was particularly concerned with women's tendency to succumb to "incurable sorrow" and melancholic feelings; he did not view them as being able to be easily convinced to abandon their disruptive emotions by rational discourses. Women's inferior ability to reason was the effect of natural causes, in the medical literature of the times; it is hard to believe that Locke held a different opinion.

4. *Conclusion*

Nancy Hirschmann maintains that the question of gender in Locke's thought should be considered through the lens of class: both in the case of women and the poor, a level of reason would be employed to legitimize inequality. In Locke's view, women of all classes and the poor would be prevented from developing their reason to the same extent as the gentleman not owing to their natural incapacities, but rather to the structure of his educational programme; education would be too demanding a task for them. As Hirschmann puts it, Locke believed that

> the process of education is so incredibly time-consuming, taking years of careful preparation of the canvas before an equally painstaking application of paint…since what is learned must be continually practiced, such elaborate education is pointless for any but the economically privileged, who have the sustained leisure to support it. (2007: 181)

Hirschmann might well be right concerning the poor; however, her arguments seem to be less cogent regarding women. Why should bourgeois women, in Locke's view, be prevented from developing their reason, given the utility this would have for their families? Hirschmann answers that Locke criticized mothers "for spoiling their children, and for worrying too much about their frailty", but not for their idleness (2007: 180). Their running a household and

[39] One of them was Catharine Trotter Cockburn, a great admirer of the *Essay*; Cockburn wrote publicly, although anonymously, in defence of its author in 1702. Locke praised "the strength and clearness" of Cockburn's reasoning: see Locke to Catharine Trotter, 30 December 1702, in Locke (1982: 731). It is also worth remembering Locke's appraisal of the Countess of Northumberland, whom he cured for a trigeminal neuralgia in 1677; in a letter to Dr. Mapletoft, Locke described her as "a person of extraordinary temper", able to endure "very great pain". See Locke to Dr. John Mapletoft, 24 Nov./4 Dec. 1677, in Locke (1976a: 360).

overseeing servants was enough, in his view, to make them industrious. This, however, would seem to be in sharp contrast with Locke's appraisal, in *Some Thoughts*, of that mother who had taught the rudiments of geography to her child, not to mention the prevailing opinion in his time that women were prone to idleness.[40] Even Lady Masham was of this opinion; she was actively engaged in promoting women's education, and urged mothers to employ "some of their many idle Hours" in learning "useful Sciences".[41] Locke did not say this. He seemed to believe that only some mothers had the rational capacity for employing their idle hours in a more advantageous way: this was the case of the talented Lady Masham, the exception rather than the rule.

There seems to be scarcely any evidence supporting Hirschmann's argument, apart from the key role Locke attributed to education in developing the ability to reason;[42] I have attempted to show that this argument could not be compelling in the case of women, because of the inconsistency Locke found between indulging in vehement passions and our innate practical principles.

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[40] A renowned Puritan conduct writer, Richard Brathwait, quarreled heartily with the idleness prevalent among women, who spent much of their time at their mirrors and attended plays in the afternoons. See Brathwait (1631: 50).

[41] Masham (2004: 192). Masham claimed that instruction was the only way in which women could perfect their virtues and become true Christians, free from silly superstitions. She complained about the ignorance in which they were usually brought up.

[42] Hirschmann (2007: 168, 178) contends that the *Two Treatises* would imply women's rationality through the reiteration of the divine command "Honour your father and mother"; however, she acknowledges that by commanding obedience to mothers as well as fathers Locke meant to double the disciplinary force of his educational method. Moreover, Hirschmann admits that a passage in *The Reasonableness of Christianity* where Locke referred both to women and the poor suggested a natural limitation of women's reason. See Locke (1999: 170): "Men of that rank (to say nothing of the other Sex) can comprehend plain propositions, and a short reasoning about things familiar to their Minds, and nearly allied to their daily experience".

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Problems for hard moral particularism: Can we really dismiss general reasons?

Dario Cecchini

Abstract: Moral particularism, in its extreme version, is the theory that argues that there are no invariant context-independent moral reasons. It states also that moral knowledge is not constituted by principles and that these are useless or harmful in practice. In this paper, I intend to argue that this position takes context-sensitiveness of reasons too seriously and has to face many philosophical problems – mainly because its most important argument (the argument from holism of reasons) is not convincing but also because a pluralist generalist account is preferable both from metaethical and normative points of view.

Keywords: Moral Particularism; Particularism and Generalism debate; moral reasons; usefulness of moral principles

1. *Introduction*

In philosophy, it is often argued that moral reasons are context-sensitive: what features count as reasons for the rightness or the wrongness of a conduct depend on the particular situation they are applied to. Moral particularism takes context-sensitiveness of reasons very seriously. According to its most extreme version, particularism argues that general reasons and then principles should be dismissed from moral deliberation.

In this essay, I will defend the indispensability of general reasons and principles for deliberation by rejecting particularism's main claim. In the first section, I will provide a plausible core definition of moral particularism and identify three different types of particularism: metaphysical, epistemological, and normative. Then, in the second section, I will try to undermine particularism's main argument: the argument from holism of reasons. Specifically, I will raise doubts about the assumption that ordinary reasons are holistic. In the third section, I will raise an objection against metaphysical and epistemological particularism (which are strictly entangled): moral principles do play an important role in explaining why a particular conduct is good or bad; replacing them requires hard work on the part of the particularist. Finally, in the fourth section, I will argue for the usefulness of moral principles from a normative point of

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view: moral principles do play an indispensable role in guiding conduct.

What emerges from my argumentation is that on one side, generalism does not need a strong theoretical account to reject particularism. Indeed, I will take into consideration the cheapest objections from the literature. On the other side, particularism appears to be a controversial theory that requires much theoretical work to be defensible. Of course, a fully developed generalism would need a better-defined account of how moral reasons work and what kinds of principles are usable. However, I think a defense of the indispensability of general reasons is a valid starting point for a generalist theory.

2. *Moral particularism: definition and clarifications*

In the literature on the subject, moral particularism is introduced in many ways (Crisp 2000, Ridge and McKeever 2016): sometimes it is meant as a claim about the *existence* of true moral principles (McNaughton and Rawling 2000, Vayrynen 2008), sometimes as a claim about the *usefulness* of moral principles (Nussbaum 2000; Lekan 2003), and sometimes as a claim about the *ontology* of moral properties (Dancy 1993). In my opinion, before being all of those, moral particularism is a claim about *moral reasons* for actions and deliberations.

Explaining how moral reasons work is one of the tasks of an ethical theory, and one of the main troubles with it is that reasons for actions are highly context-sensitive. For example, generally speaking, most people would readily admit that since stealing is morally wrong, morality gives us a reason against doing it. However, if a woman is dying and the only way to save her life is to break the window of a pharmacy and take a drug, in this context the same people would probably say that we do have moral reasons to steal the drug. Another moral platitude is that we always have reasons to keep our promises; but suppose I promised to pick up a friend of mine and then I found out that he is plotting a terrorist attack in a mall. In this context, the reason to keep my promise disappears.

Moral particularism (MP) is the theory that takes this context-sensitiveness of reasons very seriously and argues that moral reasons fully depend on the context. As a consequence, speaking of invariant moral reasons would be unjustified. Therefore:

(MP) There are no invariant reasons that contribute to a moral decision in every situation or context.

As Dancy (2004, 2017) argues, in real moral situations there are so many particular conditions that might alter or defeat supposed general reasons and make moral principles impossible. In the previous example, the fact that a

woman may die is clearly a *defeating condition* of the reason against stealing; or, if we suppose she is merely suffering and not risking death, that might be an *attenuating condition*. Or take the moral principle on not lying: if we imagine a situation in which somebody is lying in order to cheat people, we will have a condition that *intensifies* the standard reason we have for not lying. Finally, we should consider also the fact that, in the situation, a moral reason needs to be *enabled* by some condition in order to be considered by the moral agent. For instance, if somebody cannot run because of a recent injury, she has no reason to catch a pickpocket who is running away. On these grounds, the particularist argues that the morally wise agent is not the typical "person of principle", but rather the one who is sensitive to different contexts, flexible, and grasps reasons from the particular.

A first important point to clarify is that MP is not a claim about the *authoritativeness* of moral reasons. Whether they are categorical reasons or hypothetical ones does not affect MP. A reason can still be authoritative and categorical even though it is particular. Rather, the debate between particularists and their opponents – moral generalists – is about the context-sensitiveness of reasons (regardless of their authoritativeness).

A second point is that the target of MP is not necessarily a moral absolutist, who claims that there is a definite hierarchy of reasons and assumes the existence of absolute moral principles that cannot conflict with each other in particular contexts. The generalist could be a moral pluralist, such as a Rossian pluralist (Ross 1930). According to this soft version of generalism, when we face a deliberation, our moral intuition gives us access to some prima facie or pro tanto duties – that is, a definite set of moral inputs (such as duties of beneficence, of justice, of reparation, of self-improvement) that always provide reasons with some weight, which can vary according to the context. Nevertheless, the resultant reason – the actual duty – depends on the particular situation, in which many prima facie duties can come into conflict. As a result, there is still room for the role of particular judgment. Take the case of the friend who is planning a terrorist attack. The pluralist would say that the prima facie duty to keep promises is overridden by a duty to save human lives. But this does not mean that we had no reasons for keeping that promise. They were simply defeated by another, stronger general reason. So, according to this account, moral principles are saved, though particular contextual considerations are indispensable for a correct deliberation.

Moral particularism argues that even this kind of generalism is untenable. We will see what its main argument is in the next section. For now I want to go into MP in more detail and explore its philosophical consequences. As we have seen, MP is firstly a claim about reasons. However, this claim can be developed

from many points of view, and that explains why it was intended in different ways in the literature. I have identified three main dimensions along which the debate between particularism and generalism can be shaped: metaphysical, epistemological, and normative.

If there are no invariant moral reasons and moral reasons are purely contextual, it follows that in ethics no generalizations are possible. From a metaphysical point of view, this means that the descriptive features that determine the moral status of an action are not governed by any kind of generalization. In other words, the particularist says that if we take some moral property (such as being good, being wrong, being bad), we cannot appeal to any generalization in order to individuate the range of nonmoral facts (e.g., facts about promises, facts about pleasures) in which the moral properties are instantiated. So contextualism based on moral reasons has direct consequences for the metaphysics of moral properties and the way in which their nonmoral base properties constitute them.

It is noteworthy here that the generalist is not necessarily a *reductionist* regarding moral properties. That is, in order to avoid particularism, her account does not need to individuate one single nonmoral property that fully constitutes a moral property (for example, the reductionist account that argues that *being good* is nothing but *being pleasant*). A moral generalist – such as a Rossian pluralist – merely affirms that some moral generalizations are possible (for instance, "An unfulfilled promise always contributes to the wrongness of an action") and not only reductive kinds of generalization.

The fact that there are no general moral truths has some epistemological consequences for the nature of moral knowledge. The latter – according to MP – cannot be constituted by principles, whose aim is to establish which reasons always contribute to the goodness or badness of an action, regardless of the particular context. Indeed, the particularist argues in a twofold sense that access to what is good or what is bad does not depend on principles: (a) from a *justificatory* point of view and (b) from a *genetic* point of view. According to the latter, moral knowledge derives from particular contexts. The former is a stronger claim:[1] the justification of a moral conduct cannot be grounded in general principles.

One more important point may help to clarify this epistemological aspect of MP. Epistemological particularism does not say anything about the epistemic nature of moral principles – that is, whether they are a priori or empirical knowledge. A generalist might be extremely fallibilist on moral knowl-

[1] One can be a genetic particularist about moral knowledge without being a justificatory particularist, but not conversely.

edge by claiming that moral principles are acquired by induction and tested through particular cases. However, this does not mean that principles do not represent a consistent part of moral knowledge, which is exactly what particularism rejects.

The last dimension along which the generalism-particularism debate takes place is normative: it concerns the usefulness of moral principles in moral practice and deliberation. In this regard, some of the strongest versions of particularism – such as Dancy's or McNaughton's particularism – argue that moral principles are "at best useless and at worst a hindrance" (McNaughton 1988) and are the cause of bad decisions.[2]

Moral principles are supposed to be guides for conduct, but particularists point out that they are not good ones (and that is not surprising, if we think of particularism's insistence on the variability and context-sensitiveness of reasons). Indeed, particularism's main point is that the use of principles in deliberation can lead to a kind of *inflexibility* that prevents agents from understanding the complexity of a situation. For instance, suppose a person has deeply internalized the principle of not breaking the law. Imagine she then finds out that a friend of hers is hosting a family of illegal refugees that police might send back to their country, where there is a war; nevertheless, her very strong sense of being law abiding brings her to denounce the family. Normative particularists say that attachment to principles brings one to make questionable decisions like that: if that person had focused more on the context, probably she would have made a better choice. Meanwhile, generalists argue that, in cases like that, the problem does not lie in principles per se, but rather in detecting the different conflicting principles within the particular situation and evaluating carefully their weight.

In conclusion, according to my analysis, we can say that the MP claim about reasons can be differentiated into three kinds of particularism:

(*Metaphysical MP*) There are no law-like generalizations that govern moral properties.
(*Epistemological MP*) Moral knowledge is not constituted by principles.
(*Normative MP*) Moral principles are useless or harmful.

It seems to me that the first two kinds of particularism are quite logically dependent on each other: it is hard to understand how moral knowledge can be constituted by principles without law-like generalizations governing moral properties or why moral knowledge cannot involve moral principles if there are some generalizations that govern moral properties. Much more controversial, I think, is the relationship between metaphysical and epistemological particu-

[2] "Particularists are fond of saying that generalists will make bad decisions" (Dancy 2017).

larism and normative particularism. Maybe a metaphysical and epistemological MP will still make room for some kind of heuristic value of principles in moral deliberations. But in this essay I am not interested in exploring this possibility. In the next sections, I will argue against all three versions of MP. The sum of the objections I will consider can, I think, contribute to undermining the MP view on reasons.

3. *The argument from holism of reasons*

As Dancy affirms, the core of particularist doctrine is the so-called *holism of reasons* (HR):[3]

(**HR**) Each reason can be evaluated only in the context of all the relevant reasons that apply to a situation.

Moral particularism essentially *is* a holism of reasons.[4] In fact, its main argument consists in applying HR specifically to moral domain. I intend to show that this argument is unsound, especially because of the weakness of at least two of its premises.

The argument from holism of reasons goes as follows:
(**P1**) Ordinary reasons are holistic (from HR).
(**P2**) Moral reasons are not a special kind of reason.
(**C1**) Therefore, moral reasons are holistic.
(**P3**) If moral reasons are holistic, then there are no invariant moral reasons.
(**C2**) Therefore, there are no invariant moral reasons (MP).

We might consider P1 as a weakened form of HR, if we mean HR as a universal statement. By *ordinary reasons* the particularist means nonmoral reasons. She appeals to the fact that in everyday deliberations reasons are purely contextual, extremely variable according to the subject or the moment. For example, imagine that a friend of mine invited me to go for a walk. The fact that it is raining might be a reason to not accept his invitation. But I might have a romantic addiction to walking in the rain, in which case the presence of rain would be a reason *for* going out. Or maybe this is the last occasion to meet him before he leaves for India, or maybe he is the man I love. In these cases, the reason provided by the rain would be quite irrelevant. In decisions such as that (other examples are easily constructible), an appeal to some kind of principle

[3] "This [holism of reasons] is the doctrine that what is a reason in one case may be no reason at all in another, or even a reason on the other side" (Dancy 2017).

[4] The opposite vi holism of reasons is *atomism*.

– one supposed to suggest invariant reasons – would be pointless and obtuse.

The moral particularist takes P1 as an uncontroversial statement. However, as Hooker (2000) showed, this assumption does not appear very convincing. To raise some doubts, it is sufficient to take Dancy's example. If I see something red in front of me, I will have reason for believing that there is something red in front of me; but if I have just taken a drug that makes blue things look red and red things blue, the appearance of a red-looking thing is a reason *against* the belief that there is a red thing (Dancy 2017). In my opinion, this example does not undermine the fact that normally – that is to say, in *standard conditions* – sight is a reliable source of truth; and the clause "standard conditions" implicitly excludes cases in which the subject took a drug that alters sight or situations in which something could be a mirage. Or maybe a hypothetical epistemic generalist would say that this is a case where a stronger general reason (the fact that a drug has been taken) has overridden the default reason for believing the appearance: therefore, similar story to the moral debate. It is important to notice that here the generalist does not need to show that there are invariant epistemic reasons in order to undermine the argument from HR; it is sufficient to show that, even on epistemic reasons, a debate between generalism and particularism (or between atomism and holism of reasons) is *possible*, and then it is not uncontroversial that each kind of nonmoral reason is holistic (contrary to particularism).

Another kind of reason that may show a different sort of invariance is provided – sometimes – by technical disciplines. In cookery, for instance, if the water is boiling, then I have a reason to add salt and then to throw in pasta, regardless of the particular context (the quantity of water, the quantity of pasta, the kind of pasta I am going to cook, etc.). In DIY projects, if there is a star screw, you have a reason to use a star screwdriver, regardless whether you are assembling a table or renovating a kitchen. Or, in team sports such as volleyball, basketball, and football, tactical principles are important to play well and their validity in different contexts is continuously tested.[5] In disciplines like those, though context-sensitiveness is fundamental, general rules and principles still play an important role, in virtue of the scientific component of the skills required.

The point here is that though it is quite obvious that reasons are contextual and principles are useless in decisions on whether to accept a friend's invitation or on choosing an ice cream flavor, it is much less obvious in areas in which some skill or expertise is required. In those contexts, reasons appear more stable and some generalizations seem possible. I do not want to suggest that

[5] It is curious to notice that even in this context, we could identify a more generalist-like faction on sports principles and a more particularist-like faction.

ethics is like technical disciplines or that moral reasons work in the same way that technical reasons do (even though I believe there are some interesting analogies). For the sake purposes of the argument, I just intend to suggest that at least some nonmoral reasons might be invariant.

The generalist argumentative strategy cannot merely consist in showing that nonmoral reasons could be not holistic (against P1). The generalist should also argue that moral reasons are different from ordinary ones, such that it implies some kind of generality. This latter strategy counters P2. That there are some intuitive differences between moral and nonmoral reasons is obviously recognized by particularism. The question is whether they are such as to entail a claim of invariance or – from this point of view – they are exactly alike.

The difference between moral and nonmoral reasons is a very complex matter. It is useful to recall what Hare says about the meaning of "good" in moral contexts (Hare 1952). Deliberations[6] do not run out in themselves, but have some effects on the practice in which one deliberates and then on the agents of that practice. As Hare said, a particular deliberation involves a judgment that, in some sense, forms a rule. More simply, if I deliberately choose X, this means that I think that people like me, in similar circumstances, should choose X. For example, if I choose this chronometer because I think it is a good one, I mean that everyone who is interested in using a chronometer should choose this one. But people could legitimately be not interested in using a chronometer, and deliberations on chronometers affect only chronometer users. When we consider moral deliberations, they affect humans as humans and "we cannot out get out of being men [or women], as we can get out of being architects or out of making or using chronometers" (142). This means that moral deliberations must be shareable and communicable, and – as a consequence – the reasons they exhibit must be like that, in order to live in a good and stable community. In more recent times, Korsgaard has shown that while ordinary nonmoral choices are contingent because they affect our contingent practical identity (our being an architect or our being a chronometer user), moral reasons are inescapable as they concern our inescapable identity as human beings – that is, reflective animals who need reasons in order to act at all (Korsgaard 1996).

Therefore, on these grounds, we can say that moral reasons require a stronger sense of rationality compared to nonmoral ones. But do these considerations affect moral particularism? Is it possible to understand the inescapable character of moral reasons without the possibility of invariant reasons? Is it possible (or at least desirable) to live in a community that considers moral reasons as purely

[6] By *deliberations* I mean rational choices, i.e., decisions someone makes for at least one reason that, if required, the deliberator can exhibit.

contextual? I will argue in the next sections that extreme contextualism on reasons limits ethics in at least two important aspects of moral rationality: the explanatory constraint (section 3), concerning the justificatory role of reasons, and the power of guidance (section 4). The former can be considered as an objection to what in the first section I defined as metaphysical and epistemological particularism. The latter includes several objections against probably the most controversial kind of particularism: the normative one.

4. *The explanatory role of principles*

Imagine that an acquaintance – John – is a government official who has falsified a public competition in order to favor one of his relatives. How could we explain to John that he did a wrong thing, in a purely contextual way? Our justification cannot contain any appeal to general truths such as "Because nepotism is a very unfair and dishonest practice". So we may start to tell him that he prevented the worthiest people from winning the competition, or we may show him the consequences of his act to the community. However, if we assume that he is a very naive person, he will still ask: "What's wrong in all of that? What did I do wrong?" At this point, we must surrender, because the particular context is the only field we had to convince John. But if we were generalists, we would have much more to add: we might appeal to the bad effects of nepotism as a widespread practice in society; we might involve different background ethical theories that explain the wrongness of nepotism; and – most importantly – we might force John to exhibit his reasons, according to his different general interpretation of the context (e.g., "Since nepotism is a very widespread and harmless practice, my conduct wasn't bad" or "I think that it wasn't a case of nepotism, but an act of helping people we love and helping people we love is a good thing").

In my opinion, this example shows that moral principles perform an indispensable justificatory function and that depriving us of the possibility of gaining knowledge of them (exactly what epistemological MP claims) would partially miss what Zangwill has defined as "the because constraint" that moral judgments and discussions require (Zangwill 2006). I will consider now three possible replies of moral particularism to this objection.

First, the particularist might argue that the descriptive features of the context are sufficient to explain our moral judgment since there is a relation of *supervenience*[7] between moral and nonmoral properties. That relation

[7] Moral supervenience, as I understand it, is the commonly accepted intuitive idea that "there cannot be a moral difference without a nonmoral difference". Therefore, two exactly indiscernible worlds (or objects) by nonmoral properties must be indiscernible by moral properties as well.

would allow us to use the nonmoral fact that John has favored his relative as a sufficient particular reason since it is the sufficient nonmoral basis of the wrongness of John's behavior. Then John *must* convince himself after we have provided a good and detailed explanation of the context.

My reply is that the relation of supervenience does not have the explanatory power the particularist ascribes to it. An explanatory dependence of the moral property on the nonmoral features does not follow from the mere fact that two nonmorally indiscernible objects cannot be morally discernible (Depaul 1987, Kim 1990). In order to establish such dependence relation, the nonmoral features (the good- or bad-making properties) have to be relevant for the moral property and their relation has to be asymmetric; but supervenience (understood as covariance between properties) lacks these characteristics. Therefore, particularism needs a stronger explanatory-bridge principle between moral and nonmoral properties than supervenience. This principle has to be *reductive* since contextual features have to *fully* explain the moral property; but the particularist cannot appeal to a type-reductionism (the goodness of an action is reducible to a general property), because it would be inconsistent with the metaphysical claim of MP. Dancy's concept of *resultance* (Dancy 2004: 89-93) is one possible candidate: it is meant as an explanatory relation among particular nonmoral properties and particular moral reasons. In my view, it can be considered as a kind of *token-reductionism*: particular nonmoral properties fully ground moral ones, while no general nonmoral property fully grounds the moral one. However, the fact that resultance has to be understood as a primitive metaphysical explanation, without any true generalizations, makes the framework quite obscure. For instance, the statement remains obscure that John's favoring his relative counts as reason against his conduct "in virtue of some primitive explanatory relation between what he did and what counts as moral reason".

The second possible line of reply is epistemological rather than metaphysical. The particularist might say that the context in which we deliberate does not have only natural properties, but is rich in moral properties that an agent can perceive. Our friend John does not have sufficient moral sensitiveness and hence fails to perceive the wrongness of his conduct. This latter response leads MP to a kind of moral intuitionism.[8] Particularist intuitionism has two main tasks: first, explaining how agents access moral properties and, second, showing how this access guarantees rational forms of communication in or-

[8] "Intuitionism" in the moral domain is the claim that at least some moral propositions are "self-evident" (Stratton-Lake 2002), That is, intuitions about moral facts provide independent justification for some moral propositions.

der to make moral reasons shareable and arguable. If particularism did not succeed in these tasks, many moral disagreements – such as the one with John – would be unamenable to rational argumentation.

Recent developments on *moral perception* may help to ground a sound epistemology for particularism (see Audi 2013, Dancy 2010). However, it is still quite controversial whether subjects can literally perceive moral properties from particular situations (Vayrynen 2018). A moral-particularist intuitionist needs an argument to dismiss an "inferentialist" account of moral knowledge, according to which particular judgments (for instance, "John's conduct is wrong") are always the result of an inference from a particular observed nonmoral fact (John's conduct) and a moral principle ("Nepotism is wrong") held by the judging subject.

Finally, one might argue that John would have had the same naive reaction consequent to an explanation of the principle ("What's wrong with nepotism?"); so the generalist account would not have an explanatory advantage over the particularist one. I do not think this is a good point, because even after that kind of reaction the generalist would have much to offer: she could use a more general explanation, such as "Nepotism is a practice that contributes to a dishonest society" or "Nepotism causes damage to other citizens", which in some way forces John to reply and directs the argument into rational patterns. Principles have more explanatory value than contextual reasons as they are linked to a more or less defined ethical *theory*. The most fundamental task for an ethical theory is not merely to make a list of rules saying what is good and what is bad, but rather to explain, justify, and provide rational means for orientating agents through discussions. Without this important theoretical work, moral principles would be obtuse and too rigid, as particularism affirms.

In conclusion, we can say that metaphysical and epistemological MP has to face this explanatory puzzle. In order to solve it, on the one hand it needs much metaphysical work to establish a strong token-reductive dependence between moral and nonmoral properties; on the other hand, it needs much epistemological work to build a robust account of moral perception. Moral generalism, instead, has a substantial advantage thanks to the use of general explanatory principles.

As I said previously, moral principles are supposed to capture invariant reasons. MP claims that such generalizations are not possible, since in particular contexts there are intensifiers, favorers, attenuators, enablers, and disablers. However – as Hooker (2008) notices – the simple fact that there are such contextual elements does not necessarily favor particularism. A pluralist generalist has two options: (a) not separate reasons from contextual

variables[9] or (b) distinguish contextual variables from reasons but explain and capture them in a theoretical account.

I think the latter option is a good move for the generalist. If she succeeded, she would rehabilitate the intuitive conception of principles such as "*In standard conditions*, we ought to keep promises" or "*In standard conditions*, we ought not to harm others". To strengthen this idea, it is useful to compare moral philosophy with other disciplines. For instance, in economics, where the contextual variables are many, some models are used in order to capture general regularities. The interesting aspect is that, though they are not necessarily valid laws – because conditions can change – they still maintain an explanatory and heuristic value that helps to make predictions.

In fact, they include the so-called *ceteris paribus* clause ("if conditions do not change"). For example, "Ceteris paribus, if the price of an asset increases, then the demand will decrease" or "Ceteris paribus, marginal utility is decreasing". Moral principles are not supposed to have a predictive value, but they can still have an important justificatory value – as we have seen in this section – and help with more practical problems, as we will see in the next section. Maybe the most important lesson that generalism can learn from particularism is to reconsider the concept of invariance so as to get a more fallibilist concept of invariance within a governable variability of contextual situations.

5. *The practical need for principles*

The aim of moral principles does not consist just in explaining or justifying, but – inseparable from this function – in performing a prescriptive role of guidance in deliberations. As Ridge and McKeever (2016) notice, there are principles *qua standards*, which "purport to offer explanations of why given actions are right or wrong", and there are principles *qua guides*, which "purport to be well suited to guiding action". Most principles have to perform both functions.

In this last section, I intend to argue for the practical indispensability of moral principles as guides. My argumentation will try to reject the normative component of MP – that is, the thesis that moral principles are harmful or useless and lead to bad decisions because of their inflexibility. While so far the objections considered have been mainly metaethical, as they aimed to show how MP could not *explain* correctly moral practice and discourse, now we need normative considerations, which can contribute to showing that MP is not a *good* or desirable ethical position.

[9] This path might be hard, because, as Dancy showed, general reasons would become very long and unrealistic subjunctive conditionals (Dancy 2004).

Before considering the ways in which principles can be useful, we must distinguish – with Nussbaum (2000) – the practice of merely prescribing rules from genuine moral theorizing. As I stated previously, prescriptive rules, without a theoretical background, can be obtuse and harmful; the aim of a moral theory consists in explaining them, connecting reasons in a systematic and explicit manner, and providing arguments in favor of or against a line of conduct. If we mean principles as fundamental components of moral theorizing, then they must have an indispensable role in moral experience and practice. I want to mention three important features of principles: (1) *transmissibility and learning process* of ethics, (2) *orientation* in complex and undetermined situations, and (3) *predictability* of other agents' decisions.

(1) Practical knowledge, in general, requires norms and rules as an initial foothold in the process of learning. They are important especially for novices that have not acquired an expertise yet. For example, learning recipes is fundamental for someone who is not very experienced in cookery, and learning grammar rules is a necessary step toward mastering a new language. Of course, cooking and speaking a foreign language are know-how skills: an advanced level of these kinds of knowledge requires one to internalize rules and to act without them; but rules are indispensable in the process of transmission of those skills.

I think ethical knowledge is not an exception, from this point of view. It is true that the most virtuous persons are the ones who have internalized principles and can act without their support. It is also true that moral rules and principles *should* always be tested in the particular situation; that is why focusing on the context is very important, as particularists state. But despite that, general prescriptions are still indispensable in moral learning and transmission processes for at least two reasons. First, if principles are derived from solid moral theories, they will be the result of a wide range of already-faced particular cases. Principles that include a long history of past moral experience can surely help to respond correctly to new situations because – notwithstanding the extreme contextual variability of human action – it is undeniable that some patterns tend to repeat themselves.

The second reason why general prescriptions are indispensable in the moral-learning process is that, whether they are theoretically well grounded or not, principle-based historical transmission is an ineradicable practice in a stable human community. Teaching ethical conduct through general prescriptions is the quickest and most effective way from an educational point of view because general prescriptions make people act promptly when they do not have time or capacity for deliberating thoughtfully (and this is the case in most situations). Assuming that, stating that we should avoid principles en-

tirely does not appear to be a good proposal. On the contrary, I think a good practice might be to transmit principles that are more theoretically grounded, testing them against particular situations and using individual cases to make generalizations more rigorous.

(2) The latter point leads to my second objection to normative MP, concerning the indispensability of theory-based principles in order to understand complex undetermined situations. Paradoxically, I think it is exactly in analyzing particular contexts that moral principles reveal their main usefulness. This is shown by Nussbaum (2000) and Lekan (2003).

We must consider that usually ordinary life does not leave much room for critical reflection and individual judgment. We live in a world that is deeply *theory-laden*, from a moral point of view: we can encounter social prejudices, theories about conduct, religious theories, theories based on convention and habit, magic, astrology, or exotic styles of life (Nussbaum 2000: 70). Even if the individual has good thoughts and intuitions in particular cases, she might feel overwhelmed by the persuading power of these kinds of theories and this might prevent her from doing the right thing. In a real context like this, philosophical rational theories can help the agent: first, by detecting implicit theories and their supposed reasons from the context, through a process of "estrangement or defamiliarization" (74); then, by countering them through rational arguments; and, in addition, by making good individual judgments and thoughts more explicit and systematic through sound generalizations. It is important to notice that theories cannot be taken as authorities individual agents must obey; on the contrary, theories are rational tools that demand just to listen their arguments in order to favor autonomous individual judgment (74).

Moral theories perform an important role in what Lekan (2003) has called "determination problems" (111-114), in which a current theoretical backdrop (often embodied in positive laws) does not work anymore and the situation needs to be restructured in a new, satisfying, and consistent way. For example, for many centuries "marital rape" was a conceptual impossibility, according to the dominant conception of marriage in Western countries. Individual criticisms and denounces were not enough: a feminist theory – with an overall picture of women's dignity and autonomy – was needed in order to change the legal system (Nussbaum 2000: 70-71). Other examples of determination problems are the first debates on the legalization of abortion and euthanasia: they started from individual experiences, but a more general moral theory about life and death was necessary in order to counter arguments based on traditional principles.

(3) The last normative objection I want to consider comes from Hooker (2000, 2008). It is based on the consideration that ethical particularism would

have bad effects on society and, as a consequence, it would not be desirable to live in a community populated by particularists.

Imagine a particularist agent makes us a promise (for instance, to take our laptop and bring it back at the end of the day). We do not know whether he is a good or bad person, so we cannot know whether he will do the right thing; we just know he is totally faithful to the particularist doctrine against moral principles. Would we believe his promise? The fact that we do not know for sure whether he will put importance on promise keeping in general counts against his trustworthiness. I think that in comparing the particularist agent with a generalist one – at the same level of moral reputation – we tend to trust the latter more since we do know, with a certain degree of probability, that she will assign value to promises, regardless of the particular decision she will make. The general point here is that the *predictability* of another agent's decisions is an important goal that each ethical theory should pursue. In order to create a society where people can trust each other, individuals should be able to predict – within some limits – others' reflections and choices. For this goal, the value ascribed to general principles is an indispensable means. On this basis, we might wonder whether we would like to live in a particularist society.

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Affective scaffolds of nostalgia

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Abstract: In this paper I analyse nostalgia by reflecting on theories coming from cultural studies, psychology, sociology and philosophy. After introducing the meaning and history of the term nostalgia, I focus on Boym's theories to verify if her classification can be applied to the everyday experience of nostalgia, especially childhood nostalgia, which is the focus of this paper. I then argue that at its core nostalgia consists in a selection and renarration of memories that deeply shape and reveal one's personal identity. By using theories of situated affectivity, I offer an account of the role the environment plays in nostalgia. I show how the media we consume through material culture constitutes a synchronic scaffold for the alleviation of the sense of nostalgic longing and how the processes of selection and renarration can also be scaffolded by the interaction with media. I conclude the paper by discussing how these processes can be externally influenced in a way that resembles what Slaby calls mind invasion.

Keywords: nostalgia; media; situated affectivity; affective scaffolding; mind invasion

1. *Introduction*

Nostalgia is a complex affective phenomenon that has fascinated poets as much as it has psychologists and philosophers for centuries. Despite numerous studies on the topic, nostalgia still seems an impossible conundrum, a jigsaw puzzle in which past and future, memory and oblivion, pleasure and longing tightly intersect. This bittersweet emotion is deeply dependent on the emoter's environment, especially the technology, media, symbols and material culture present in it (Hutcheon 2000; Boym 2001; Wilson J. 2005; Lizardi 2015) and I believe that the theories of situated affectivity offer excellent tools, especially the various formulations of the concept of *affective scaffolding*, to understand this aspect of nostalgia. However, I adopt a different approach from the one more common in the literature of situated affectivity. Scholars generally start from a theoretical model, usually inherited from cognitive science, and then apply it to affectivity. Instead, I first try to analyse a specific affective phenomenon (i.e. nostalgia) by reflecting on the theories from cultural studies,

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psychology, sociology and philosophy. Then, I use theories of situated affectivity to achieve a better understanding of the environment's role in this affective phenomenon. I believe this approach complements those more common to the theories of situated affectivity, and I hope that those interested in both specific emotions (especially nostalgia) and situated affectivity find the methodology and the results reported here useful.

I focus on the way nostalgia is "ordinarily" experienced today – that is to say, in a society deeply influenced by technologies that constantly allow quick access to an infinite amount of nostalgically relevant material. I take account only very briefly of people such as writers and philosophers, who have a peculiar relationship with their nostalgia and have experienced this emotion in a unique way through the act of writing (e.g. Benjamin or Nabokov). While particularly interesting from a philosophical point of view, especially if we consider writing as a form of scaffolding of one's emotions, a literary work is also an idiosyncratic expression of the affectivity of the subject. Since each writer can express nostalgia in a very personal and unique way, analysing the writings of authors such as Benjamin or Nabokov (see Jameson 1969; Boym 2001: 259-284) could mislead if interpreted simply as expressions of the author's affectivity and not also as works of art. Therefore, rather than analysing how the nostalgic person creates texts and artefacts to express her nostalgia, I analyse the relationship between the nostalgic person and the potentially nostalgically relevant material present in her environment. To better achieve this goal, I mainly focus on childhood nostalgia, for various reasons. First, while not everyone has experienced nostalgia for a romance or for "the good old days" (i.e. political nostalgia), most adults have experienced childhood nostalgia at least once. As a matter of fact, of all the kinds of nostalgia that one could list according to their specific object (e.g. political nostalgia, nostalgia for a romance, homesickness), childhood nostalgia is arguably the most widespread, as it is reflected by the abundance of media that nourish and thrive on this emotion (see Lizardi 2015). Moreover, this kind of nostalgia is theoretically relevant because childhood arguably represents the most primary object[1] of nostalgia (see Starobinsky 1966: 103; Davis 1979). However, to better understand childhood nostalgia and nostalgia in general, I also offer examples of other kinds of nostalgia, especially political nostalgia.

This paper is divided into five parts. First, having introduced the meaning and history of the term "nostalgia", I focus on Boym's (2001) theories to verify if her classification applies to the everyday experience of nostalgia, especially

[1] Here I am referring to the "material" or "particular" objects of nostalgia, not the formal one.

childhood nostalgia. In the second part, I show how, at its core, nostalgia consists in a selection and renarration of memories that deeply shape and reveal one's identity. In the third section, I offer an introduction to the concept of affective scaffolding. In the fourth section, I show how the media that we consume through material culture can constitute a synchronic scaffold to alleviate the sense of nostalgic longing. In the fifth section, I show how the processes of selection and renarration can also be scaffolded, and I discuss how these processes can be externally influenced in a way that resembles what Slaby (2016) calls 'mind invasion'.

2. *Nostalgia: a longing for the past*

The history of nostalgia as a precisely identified phenomenon begins in 1688, when the Swiss physician Johannes Hofer (Hofer 1688; Starobinski 1966) invented the term by combining the Greek words *nostos* (homecoming) and *algos* (pain, longing). He coined this scientific (thus, internationally recognisable) word to identify the pathological sense of *Heimweh*, a German word that literally means 'homesickness', which Swiss mercenaries experienced on the battlefront, away from their beloved Alps (Starobinski 1966). Hofer's idea of interpreting nostalgia as a kind of sickness (i.e. a disorder of the imagination) lasted through the better part of the 18th century. However, as Hutcheon notes, by the 19th century, the word had lost its purely medical meaning:

> [Nostalgia] went from being a curable medical illness to an incurable (indeed unassuageable) condition of the spirit or psyche. What made that transition possible was a shift in site from the spatial to the temporal. Nostalgia was no longer simply a yearning to return home. As early as 1798, Immanuel Kant had noted that people who did return home were usually disappointed because, in fact, they did not want to return to a place, but to a time, a time of youth. Time, unlike space, cannot be returned to – ever; time is irreversible. And nostalgia becomes the reaction to that sad fact. (2000:194)[2]

Nowadays most scholars agree on the point that nostalgia is a longing for a lost time, rather than for a faraway place and that therefore nostalgia should not be confused with homesickness (see Hart 1973: 398-399; Davis 1979; Hutcheon 2000; Boym 2001: 3-18; Wilson J. 2005: 22-23; Sedikides *et al.* 2008). Even

[2] More precisely, Kant (1798: 178-179) argues that *Heimweh* is generated in Swiss soldiers who live abroad, by images of their homeland from their past. Upon returning home, they would be healed of their *Heimweh,* thanks to the disappointment of not finding what they sought. They would feel disappointed because their homeland has changed; in reality (Kant argues), they were disappointed because they wanted to return to their childhood. As she specifies in a note, Hutcheon takes the idea of nostalgia as a response to the irreversibility of time from Jankélévitch (1974), rather than from Kant.

though we can be nostalgic for a faraway home, if we are feeling nostalgia, distance in time is more relevant than distance in space. 'True' nostalgia thrives on the irretrievability of the past (Jankélévitch 1974; Hutcheon 2000). As it will become clear below, the impossibility of coming back to this metaphorical 'home' allows its transformation and idealisation.

Explaining what defines the longing of nostalgia is no easy task, as it is a multiform phenomenon. To better understand this problem, we turn to Svetlana Boym, one of the most influential scholars on nostalgia. Boym (2001: 41-48) argues that there are two main kinds of nostalgia. The first is restorative nostalgia, which focuses on the *nostos* and tries to recreate the lost home (41-48). This nostalgia is at the core of various reactionary and identity political movements. It is so obsessed with the idea of a return to origins that it can even refer to a past that ended before the nostalgic person was born. Inevitably, such a past can be so idealised that it almost resembles a myth (41-48). However, we could say that restorative nostalgia manipulates not only history but also the very people who feel this emotion. They do not fully realise that they are the victims of nostalgia; rather, they consider themselves protectors of truth and tradition (41-50). These traditions, as Boym (42) specifies by referring to Hobsbawm (1983), are often invented and defended through 'symbols and rituals' that assure continuity with the past and the possibility of its complete return (Boym 2001: 41-48).

The second kind is called reflective nostalgia, and it focuses on the *algos*; this emotion delays the homecoming melancholically and ironically (Boym 2001: 49-55). This nostalgia thrives on the "ambivalence of longing and belonging" (49-55). It differentiates itself from restorative nostalgia in its relationship with modernity. Rather than rejecting it, it embraces its contradictions and is also very sceptical of the absolute truth, of which restorative nostalgia is so fond (41-55). Instead of focusing on symbols and rituals, reflective nostalgia loves details and fragments of memory (Boym 2001). It is often ironic and even humorous,[3] unlike restorative nostalgia, which takes itself seriously (Boym 2001). Boym believes not only that in reflective nostalgia, the subject is aware of her emotion, but also that she engages critically with her longing (48-56). This nostalgia can resemble melancholia, and it can likewise become a motor for artistic creation. If anything, this is the nostalgia of writers and artists (in particular, Boym analyses Nabokov, Brodsky and Kabakov). In other words,

[3] The interpretation of the relationship between irony and nostalgia is radically different for other authors. Most eminently, Hutcheon (1988: 39) identifies irony as an alternate phenomenon to nostalgia. She says that irony can manifest itself contextually with nostalgia, but, unlike Boym's (2001: 354) contention, the former cannot be a co-constituent of the latter.

as the term 'reflective' suggests, the main difference from its 'restorative' sister is that this nostalgia is 'self-aware' (48-56). Therefore, even if it inevitably transforms the past, it never does so to the point of turning it into myth. Rather, we could say that the person who experiences reflective nostalgia plays with the past, not out of a desire for manipulation and control over history or other people but for the bitter pleasure of pondering what was loved and is now lost. Boym's (41-56) analysis shows that nostalgia plays a central role in our identity, both as a group and as individuals. Restorative nostalgia involves a complete identification between the past of the social group to which the subject belongs and the future of that group. In other words, the person who feels restorative nostalgia thinks, "This is who we were and, therefore, who we should be". In contrast, in reflective nostalgia, we have a proper reflection, a pondering of the role that the past plays in our lives. In a way, instead of affirming one's identity, the person who feels reflective nostalgia questions it. She wonders who she was and who she is now.

Boym (41) stresses the fact that her distinction is not rigid, and that nostalgia usually manifests itself in a more nuanced way. However, she is more interested in the cultural products of nostalgia (such as political movements, literature, art and the evolution of urban landscapes) than in the emotion itself. Therefore, her distinction cannot adequately account for the everyday experience of nostalgia. For example, the childhood nostalgia felt by people who are not artists does not reach the extremes of restorative or reflective nostalgia. A person who is nostalgic for her own childhood does not consider the object of her longing retrievable. If anything, such a pursuit would be pathological. Neither is a person nostalgic for her own childhood involved in the deep, almost melancholic pondering that makes the person who feels reflective nostalgia reinterpret her past through artistic production. Rather, she is in a somewhat intermediate position. In other words, even if she were aware of feeling nostalgia, this does not necessarily imply that she would take a critical stance towards the feelings she has for the past and the representations that shape those feelings. As we will see in the fourth section, childhood nostalgia is usually felt through a partial and time-limited reliving of an idealised childhood, made possible by the engagement with the material culture that connects the nostalgic person to her past.

3. *Selection and renarration*

We now have a more nuanced, albeit incomplete, interpretation of how nostalgia views the past. But how does the past become 'nostalgic' in the first place? I believe that at its very core, nostalgia performs a renarration of the

past that takes place first and foremost through a selection. A good starting point for understanding how nostalgia implies a selection and renarration comes from Hutcheon:

> [The nostalgic past] is rarely the past as actually experienced, of course; it is the past as imagined, as idealized through memory and desire […] It is "memorialized" as past, crystallized into precious moments selected by memory, but also by forgetting, and by desire's distortions and reorganizations. Simultaneously distancing and proximating, nostalgia exiles us from the present as it brings the imagined past near. The simple, pure, ordered, easy, beautiful, or harmonious past is constructed [and then experienced emotionally]. (2000: 195)

Here Hutcheon correctly identifies the object of nostalgia as a lost past, moreover she highlights the connection between memory and nostalgia. These two phenomena share some characteristics; however, we should not conflate them (see Casey 1987: 368). Just like nostalgia, memory is a selection, as we do not remember everything that was present; nostalgia and memory are not photographic images of the past to which they refer. As a matter of fact, memory also implies a renarration of the past, and such a renarration is often dependent on past and present emotions, which "colour" and shape it (see De Sousa 2017). Another important point is that the renarration of memory and that of nostalgia have to do with one's identity (Davis 1977; 1979; Boym 2001; Wilson J. 2005). This is evident with memory. Memory contributes to the formation of one's identity, as it tells us who we were, or at least who we believe we were. On the other hand, the relation between nostalgia and identity is more complex and by understanding this relation we can also understand why memory and nostalgia should not be conflated. Nostalgia reveals what aspects of the past we would like to bring back, if given the opportunity, or at the very least, what aspects we would like to experience again. In its most extreme instances, nostalgia reveals the future we want, a future that conforms to our idealised past. Therefore, this emotion does not simply reveal who we believe we were, but, more importantly, that we believe something about that past to be so good and positive that we want our present and future identity to maintain strong continuity with it.[4] In other words, we mainly feel nostalgia by focusing on the

[4] For the relation between identity and nostalgia in psychology and sociology, see Davis (1977; 1979), Sedikides *et al.* (2004), Wilson J. (2005). The fundamental idea that all these authors share is the so-called 'discontinuity hypothesis', first theorised by Davis (1977; 1979). According to this idea, nostalgia at its very core is a coping mechanism that forms and corroborates our sense of identity in response to existential threats. Or, as Davis (1977: 420) puts it: "1) the nostalgic evocation of some past state of affairs always occurs in the context of present fears, discontents, anxieties or uncertainties even though these may not be in the forefront of the person's awareness, and 2) it is these which pose

moments of the past that we now believe to have positively determined our present identity and that should also shape our future identity. I want to stress the fact that what determines the selection of the moments that shape our nostalgia is not the relevance they had in the past, but the value we attribute to them in the present, in light of the identity we think we have now or that we desire to have in the future. This process of revaluation – or, if you will, renarration – of the past is an essential component of nostalgia. To better illustrate this point, I offer four examples, in which I consider how past events (either positive or negative) are seen in the present.

(1) The fact that we would feel nostalgia by focusing on events that determined our past identity and that still have a positive impact on our present identity is quite intuitive. Let us consider a retired athlete who is nostalgic for his heyday. Clearly, without a difference between his present and past conditions, nostalgia would be impossible, since we can only long for something that we believe not to have. However, at the same time, he also perceives a strong continuity in his identity through time. The successes of his youth are as important now as they were then in defining who he is. He might be unable to compete anymore, but in a way, his identity is still that of an athlete, albeit a retired one, and the nostalgic renarration of his past successes is what validates this identity. (2) However, not all things that were once pleasurable and important to one's identity are relevant to our nostalgia. For example, things that were very important when we were children, such as books or movies, might leave us now completely indifferent or may even motivate shame. We usually are not nostalgic for a past that we disown, a past that is too far away from the identity we now have (or desire). (3) Moreover, some events that have defined our childhood and, therefore, our identity, nonetheless are not part of our nostalgic renarration because they were not happy events at the time, and we still recognise them as unhappy. For instance, I remember the attack on the Twin Towers on 9/11 very distinctly. Even though I was only a child, that day changed the way I would see the world; it was an event that played a crucial role in the formation of my identity. Yet, I would never be nostalgic for that day. This is quite intuitive since nostalgia can only refer to events that we now think were once happy and good. (4) Finally, one can be nostalgic for a time that was not necessarily seen as partially or wholly positive then but is seen as positive today. If we keep using the 9/11 example, I could say that on a deeper

the threat of identity discontinuity (existentially the panic fear of the "wolf of insignificance") that nostalgia, by marshalling our psychological resources for continuity, seeks to abort, or at the very least deflect". While this theory captures a fundamental aspect of nostalgia, focusing too much on it might blind us to another fundamental aspect of this emotion: Nostalgia also reveals our identity; not only the one we have now but, also and more importantly, the one we want in the future.

level, I might be nostalgic for how the world was before 9/11, when it seemed to be a safer place. I am nostalgic for how the world was then, and in a sense, I would like to be part of that world once again. However, if I am nostalgic, it is because I idealise a past that in reality was probably as troubled as the present. In this instance, it is clear how nostalgia essentially performs a reevaluation of the past, which can become an idealisation and even imply a rejection of the present, or at least of parts of it (Hutcheon 2000: 195), and an imagining of the future (since I want the future to conform to my ideal image of that past). In general, nostalgia reveals not simply who we thought we were but, more specifically, who we think we are and who we want to be. At this point, it should also be clear that the nostalgia we feel does not simply reveal the identity we think we have (or wish we had); it also helps shape that very identity through the processes of renarration.

Since the object of nostalgia is an idealised past that was fundamental in the formation of our identities (present or desired), it is clear why childhood is the perfect object of nostalgia.[5] Not only is childhood the crucial moment in the formation of our identities; it is also the time when everything seems possible. The sense of infinite possibilities and near omnipotence that we associate with childhood and youth make them even more of an ideal object for nostalgia (see also Peters 1985). I conclude this section by stating clearly that in childhood nostalgia (but the same could be said for all forms of nostalgia), we do not long for specific and selected moments that acquire a new meaning in the present. Rather, we long for childhood as a whole, idealised and renarrated by the combination of those selected and reevaluated moments (see also Casey 1987: 368). This point can be better understood if we think that this narration is not done once and for all. Rather, it is a continuous process, constantly open to new interpretations (see Davis 1977: 419; Silver 1996: 3; Wilson J. 2005: 35, 61). This means that whenever we feel nostalgia, we could volun-

[5] Here I am referring to the 'material' or 'particular' objects of nostalgia. Other instances include the idealised good old days, youth, a mythical prehistorical past. In this paper, I do not focus on the formal object of nostalgia. However, I believe that Heidegger (1983: Eng. tr. 5-9) has thus far come closest in the individualisation of the formal object of nostalgia. He argues that what he calls *Heimweh* (which, in this case, I believe can be assimilated to nostalgia) is longing for an original unity. In *Heimweh*, we are driven 'to being as a whole' or 'to be within the whole' (1983: Eng. tr. 5). Heidegger, who here is interpreting Novalis's fragment – 'Philosophy is really a homesickness [*Heimweh*], an urge to be at home everywhere' (Novalis 1923, Vol 2: 179), goes on to explicate the way this desire to be at 'home', to be 'as a whole' or 'within the whole', is at the core of the philosophical endeavour. While fully explaining this part of Heidegger's argument would require an article of its own, here we can say that the German philosopher has implicitly found the formal object of a phenomenon that he calls *Heimweh* (but that intuitively includes nostalgia). In this light, we can affirm that childhood, the nation, the good old days (that is to say, the particular or material objects of nostalgia) represent particular formulations of the whole, of which we want to be part once more.

tarily or involuntarily focus on different reimagined aspects or moments, thus forming a new renarration. However, this process determines only the way we connect to and characterise the object of longing, which essentially is always the same – that is to say, a childhood that has been somehow renarrated and idealised to some degree.

4. *What are affective scaffolds?*

Now that we have a better understanding of nostalgia, I will address the problem of how this emotion relates to the subject's environment, in particular, material culture and media. I believe that the media play a role in the way we both feel nostalgia and develop a nostalgic attitude towards the past. To better understand these ideas, I will use concepts derived from theories of situated affectivity. The supporters of these theories argue that we should not analyse affect and emotion as processes that take place exclusively intracranially. That is to say, they hold that affectivity is not a process bound to the individual brain; rather, it also encompasses processes that take place in the body and sequences of active engagement with the environment, usually in a highly social and relational context (Slaby & Wüschner 2014). Thus, affectivity is a process that involves the brain and the body of the emoter; moreover technology, processes or structures present in the environment can support emotional performances and the development of specific affective repertoires (Griffiths & Scarantino 2009; Krueger 2014; Slaby 2014; Colombetti & Roberts 2015). [6]

Since I want to focus on the role material culture plays in nostalgia, I will use the concept of scaffolding, a central notion in situated affectivity. Clark (1997) introduced the notion of the external scaffold in cognitive science by elaborating the work of Vygotsky (1986). An external scaffold can comprise items or structures present in the environment, which the subject can use reliably to support cognitive processes (Clark 1997: 45-47). Classic examples of external scaffolds are language and technology (from pen and paper to computers that can be used, for instance, to do complex calculations) (Clark 1997). A more recent example is that of an experienced bar tender who associates cocktails to specific glassware and decorations, which she arranges on the counter rather than literally memorizing long orders (Stephan & Walter 2020).

[6] I do not argue whether affectivity can be extended (i.e. co-constituted by extrabodily processes) or at most embedded (i.e. co-dependent upon extrabodily processes) (see Stephan *et al.* 2014: 69). I remain neutral on the issue because, as Stephan and Walter have recently argued, from a practical point of view, whether affectivity can be extended or merely embedded does not matter. Rather than losing ourselves in metaphysical quandaries, we should, as I do in this paper, focus on the "personal, moral, and societal importance of being aware of these scaffoldings" (Stephan & Walter 2020).

Griffiths and Scarantino (2009) brought affective scaffolds into the debate on situated affectivity and deepened the concept with the distinction between diachronic and synchronic scaffolding:

> [T]he environment plays an active role in structuring and enabling emotional "engagements," which […] are scaffolded by their natural context of occurrence. The environment scaffolds emotion in two ways. Synchronically, the environment supports particular emotional performances – particular episodes of, say, anger or sadness […] Diachronically, the environment supports the development of an "emotional phenotype" or repertoire of emotional abilities. Thus, the provision of confessionals in churches enables certain kinds of emotional performance (synchronic scaffolding), and the broader Catholic culture supports the development of the ability to engage in the emotional engagements of confession (diachronic scaffolding). (443)

The environment, which encompasses everything from language to architecture and from material culture to political institutions (Colombetti & Krueger 2015), does not simply offer triggers for the affective reactions of the subject. As a matter of fact, the notion that emotions are a response to the environment is a trivial one that would not need the concept of scaffolding to explain it. Rather, the environment offers support for expressing and developing affectivity, thus partaking in the affective process in specific ways. Colombetti and Krueger (2015) make an important development in the concept of affective scaffolding, arguing not only that our emotions depend on our sociocultural context, as Griffith and Scarantino (2009) had already argued, but also that affective states involve the active manipulation of the world. According to them, this process leads to the creation of what they call 'affective niches' – that is to say, "instances of organism-environment couplings (mutual influences) that enable the realization of specific affective states. This active manipulation need not be the product of a conscious intention, although it can be; rather, it is often just part of our repertoire of habitual dealings with the world"[7] (Colombetti & Krueger 2015: 1160). Niche construction theory offers a deep understanding of affective scaffolding because it highlights the fact that as affective organisms, we and the environment in which we live are structurally entangled. According to niche construction theory, as inhabitants of a specific environment, we modify it in various ways in order to better fulfil our

[7] The concept of niche construction originates in evolutionary biology, and Odling-Smee and Feldman (2003) have studied it particularly. An example of niche construction in nature is the dam-building activity of the beaver. This activity shapes the environment where the beaver lives. The environment shaped to fulfil the needs of the beaver thus becomes a niche, which in turn affects the beaver's behaviour and that of its progeny. The concept of niche construction was first introduced in cognitive sciences by Sterelny (2010).

needs (in this case, affective needs), thus shaping a niche. At the same time, the niche in which we were born and that we have contributed to forming shapes our affective structure. A particularly interesting example that Colombetti and Krueger offer, which helps in understanding the concept of affective niche, is the example of the woman's handbag. Such a handbag is an instance of a highly portable and personalised affective scaffold, as it is a

> collection of technologies specifically chosen for regulating affect: charms and tokens for good luck and peace of mind, which influence one's appraisal of, and ability to cope with, specific situations; photos, assorted mementos (such as old theatre tickets and restaurant receipts), snippets of notes, and letters from loved ones that bring about fond memories of individuals and elicit specific feelings; and small weapons or tools that affect one's awareness of one's action possibilities, which accordingly generate feelings of confidence, power, and security. (2015: 1163)

The model of niche construction can be particularly useful in describing collecting, which is a phenomenon deeply related to nostalgia (Boym 2001: 309-336; Wilson J. 2005: 107-172; Lizardi 2015). Owning, collecting and organising objects from the past allow us to create a space in which certain affective phenomena would otherwise be impossible. For example, Wilson J. (2005: 113) notices how some people collect toys that they desired when they were children and could not have at the time. In this instance, owning that particular object allows the individual not only to connect to her childhood, but also to 'complete' it to some degree and, thus, idealise it. In a sense, owning those toys lets the subject somewhat affectively 'restore' what never was. This idea of restoring and experiencing a past that one has never lived becomes even more apparent when we think of those who collect artefacts from an era that ended before one's birth (see Wilson J. 2005: 109-127). From the perspective of niche construction, a collection appears as a reliable and highly individualised source of nostalgic feelings. In the next two sections I explain in more detail how exactly environmental supports can function as scaffolds for nostalgia.

5. *Alleviating the longing through synchronic scaffolding*

In this section, I use the concept of affective scaffolding to examine how childhood nostalgia is generally experienced today. In childhood nostalgia, we can 'satisfy' the desire to bring back the past by momentarily reliving the experiences and feelings that structure our nostalgic longing, through engagement with media, such as books or movies, that were important in our childhood or thematically or emotionally related to it. This nostalgia is not fully restorative because the subject is not delusional – she knows that her childhood will not

come back. Neither is it reflective; even though engagement with the past can be active, it lacks the more critical and creative components that are specific to reflective nostalgia. The idea that nostalgia thrives on some kind of material support is not new. Authors such as Hutcheon (2000) and Lizardi (2015) have realised that in our era, technology offers the means for making nostalgia more accessible than ever. As Hutcheon notices:

> [N]ostalgia requires the availability of evidence of the past, and it is precisely the electronic and mechanical reproduction of images of the past that plays such an important role in the structuring of the nostalgic imagination today, furnishing it with the possibility of 'compelling vitality'. Thanks to CD ROM technology and, before that, audio and video reproduction, nostalgia no longer has to rely on individual memory or desire: it can be fed forever by quick access to an infinitely recyclable past. (2000: 196)

Since Hutcheon wrote this, potentially nostalgic material has become more accessible than ever: movies, books and songs are now constantly available on our smartphones. Internet archives, such as YouTube, allow access to almost all media that has ever been produced ranging from black-and-white movies to sitcoms from the 90s, and from newsreels from the 30s to whatever was culturally relevant when we were children. In other words, nostalgia is now at our fingertips and we can experience it whenever we want (Lizardi 2015).

As already seen in the previous section, we should keep in mind that speaking of material culture as merely a trigger for our nostalgia could be too simplistic, even though this is a popular attitude (see Wildschut *et al.* 2006; Lizardi 2017: 6). I do not deny the fact that the environment can unexpectedly trigger our nostalgia;[8] rather, in this section and the next, I focus on how the environment can be organised – usually, but not necessarily, by the subject – in a way that can structure our nostalgia. As a matter of fact, material supports do not simply elicit an affective response. They also allow us to experience nostalgia in a way that otherwise would be impossible. Even though an actual 'homecoming' is known to be impossible, material culture offers a direct connection with the past, a connection so strong that we could describe it as material culture allowing us to relive the events and experiences that constitute our nostalgic renarration whenever we want.

In the recent and variegated literature on situated affectivity, the idea that material culture can constitute a solid scaffold for affectivity has gained traction. Scholars have been especially interested in material supports such as

[8] Proust's (1913) episode of the madeleine is often used as an example to support the idea that a sensation can trigger nostalgia (see Hart 1973). I do not deny this possibility, nor will I argue whether the famous Proustian passage describes nostalgia or another phenomenon.

MP3 players, portable computers and, most of all, smartphones that allow the consumption of all kinds of media, including literature, movies and especially music. These technologies, I believe, allow for two different kinds of user-resource interactions (i.e. interactions between an individual and an affective scaffold). The first kind of interaction is one in which an individual uses material culture as *unidirectional material tools for emoting* (see Stephan & Walter 2020). For instance, if one unwillingly finds herself feeling a painful nostalgic longing for her youth, she could look at old pictures in which she shares happy moments with friends or family. Through this interaction with a resource present in the environment, she can regulate her nostalgia by engaging in a pleasurable contemplation of the past. Through the picture the past is contemplated as something not completely lost, but somewhat still 'present' and available. This mediated aesthetic connection with the past is pleasurable and thus alleviates the sense of longing. In this instance, therefore, the subject initiates an intentional and unidirectional influence of the world into herself to satisfy a specific affective need (see Stephan & Walter 2020). This alleviating of the sense of longing could occur without an external support. After all nostalgia is bitter because we long for something, and sweet because we love indulging in the contemplation of the past, be it a mediated contemplation or not. However, the use of a scaffold makes the alleviating function easier and quicker to be performed.

The second type of user-resource interaction I want to discuss in this section are *functionally integrated gainful systems* (FIG) as first introduced by Wilson R. A. (2010). In particular, Krueger and Szanto (2016) try to show that the music we listen to through our portable devices does not merely trigger our affectivity and that the relation we have with our portable devices capable of reproducing media is not unidirectional. Rather, in combination with the listener, they generate a FIG. FIGs have three fundamental characteristics: "they consist of processes that are (1) *coupled*, in that they are linked by reliable causal connections; (2) *integrated*, in that they are mutually-influencing and working together as one; and (3) *functionally gainful*, in that these processes together realize novel functions they can't realize separately" (2016: 867). Therefore, similarly to a niche, a FIG involves the ongoing feedback between an individual and specific features of her environment. Krueger and Szanto argue that the activity of listening to music can fulfil the requirements of FIG. This becomes evident if we think about the fact that material culture always mediates our engagement with music (DeNora 2000; Krueger & Szanto 2016: 867). We generally listen to music through technology, such as MP3 players and the ubiquitous streaming services offered through the smartphones in our pockets. These material technologies represent a reliable source that we can

access as often and as long as we wish, fulfilling the requirement of coupling (Krueger and Szanto 2016: 867-868). What about integration? Our engagement with music through material technology allows us to manipulate music in real time. We can create playlists that include selected artists, genres and tracks, depending on our mood. We can manipulate the auditory properties of the music by regulating volume and bass, and we can even determine the listening context (e.g. headphones or speakers). Finally, the manipulation of music loops back into us, as what we listen to can modify our mood, thus creating a functionally gainful system. The subject alone cannot fulfil the self-stimulation we achieve through the manipulation of the music, achievable only through the engagement with material culture (2016: 867-868).

How can this model help in understanding nostalgia? First, even though it works particularly well with music, a medium with which the user can interact easily, I believe that it can easily translate to other media, such as videos. The ongoing feedback between the user and the device allows the creation of playlists of nostalgic material[9] on the go. For example, whilst listening to a song from my childhood, I can also be reminded of a similar song that was popular around that time. Immediately I can use my device to stop listening to the former song and start listening to the latter. Not only that, I can listen to the song as whole or, as it often happens, just to that chorus that was so popular when it first came out. Then I might be reminded of how that song was played during a particular scene of movie I really like and at once, without changing device (and maybe without even changing app) I can watch that precise scene as many times as I want. In other words, I can structure my nostalgic experience in a way that could only be possible through the interaction with such devices. Not only that, if in a way the device allows me to structure my experience exactly as I desire, it is also true that my desire is partially determined by the fact that the device allows me to be erratic. As in Krueger and Szanto's (2016) example, the technology that allows us to reliably self-stimulate our affective state (in this case, nostalgia) is always in our pockets. Therefore, we could induce nostalgia in ourselves whenever we want, by manipulating the device that reproduces the media. Moreover, as long as we are in full control of the device, we can also prolong the nostalgic experience by keeping feeding ourselves with nostalgic stimuli.

What I find particularly interesting in these models of scaffolded nostalgia is the peculiarity of the functional gain. Reading a book, listening to a song or watching a movie from our childhood immediately connects us to the past in

[9] The concept of 'playlist past' is central to the work of Lizardi (2015). With this expression, he refers to the possibility that new technologies offer and the mass-media industry encourages of compiling collections of nostalgic texts, ranging from books to videogames. According to Lizardi, the playlist past is a nostalgic, individual, narcissistic and acritical past.

a way that otherwise would not be possible.[10] While our memories of the past can change through time, the interaction with media from that time allows us to connect directly to that past in a way that memories cannot offer. Only through something that comes uncuffed from the past can we reconnect with our childhood in the most direct way. In other words, media has the quality for which the nostalgic person yearns most: an immediate connection and continuity with the past. It is only natural that nostalgia should occur through them.[11] In these instances, the environment integrates the function of alleviating the sense of longing by allowing the subject to engage in an experience comparable in the imagination of the subject to those that characterised her childhood. The subject could not fulfil this function autonomously through remembering alone. Remembering a melody and listening to it do not create the same effect. In the same way, the phenomena of remembering a childhood experience (such as the engagement with a text) and recreating that experience in the present are radically different. However, this relief is always time-limited and incomplete; it is bittersweet, we could say, since (as argued above) the object of longing is a time idealised as a whole and not as single experiences. In this light, we can easily see how nostalgia is often scaffolded through material culture. Despite instances in which one might feel nostalgia without some kind of affective scaffold, nowadays it seems that nostalgia usually takes place through engagement with material culture.

6. *Scaffolding the nostalgic renarration*

In this section I show how the nostalgic renarration can be scaffolded. and I discuss how this process can be externally influenced. The idea that our nostalgia can externally influenced and even manipulated is not new (see Jameson 1991; Lizardi 2015), however, I believe that the tools that situated affectivity offers – especially what Slaby (2016) calls "mind invasion" – can be used to better understand these problems.

The previous section shows how one can structure the present experience of childhood nostalgia through synchronic scaffolding – an instance of what Slaby (2016) would call a user/resource model. In this model, a conscious individual ("user") – who is usually a fully developed adult – pursues a specific

[10] This example works best with texts consumed when we were children and discovered again as adults, but it can also work with texts that reuse elements from texts of our childhood.

[11] Of course, this is rather paradoxical. Media allows for an instantaneous connection with the past, and in this sense, the connection seems immediate. At the same time, this connection takes place through a medium; it is 'mediated', as Lizardi (2015) would say. Through the engagement with media, we see a core feature of nostalgia: the relation with a past that is lost and, yet, somehow available.

task through intentional use of a piece of equipment or by exploiting specific aspects of the structure of the environment ("resource"). This model, which is dominant in the theories on situated affectivity, is incomplete, as it fails to fully address the complexity of the relation "subject/environment" and ignores important political issues (Slaby 2016). More specifically this model does not highlight the fact that the resources subjects use also play a role "in bringing about and enabling the agent, and transforming her or him in various ways" (2016: 7). In other words, we should focus not only on how we shape the niche to accommodate our affective needs but also on how, in turn, the niche shapes us by creating affective attitudes and needs.

Now it should be evident that the idea of childhood nostalgia as an exclusively private and spontaneous emotion about fond memories of one's youth cannot be correct. Rather, the nostalgic process of renarration – which takes place through selections and reevaluations – is is deeply dependent on one's social and cultural environment. Here, I give an example of how nostalgia is an affective attitude that we have towards the past, which can be developed and structured through diachronic scaffolding. Returning to the example of 9/11, I now show how the process of selection and renarration can be scaffolded. I might be nostalgic for how the world was before 9/11, but were things actually simpler? I cannot know, since I was too young at that time to judge. Therefore, my nostalgia for how the world was before 9/11 must necessarily rely on more than just my memories, most notably, the way that mass media produced before and after 9/11 represent that time. I can use mass-media images depicting the world before 9/11 as a "mind-tool" to compensate for the scarcity of memories I have of those times. Not only that; through active engagement with these media, I can structure my nostalgia. This could somewhat resemble reflective nostalgia, especially if we consider the active engagement, irony and self-awareness that characterise this kind of longing. This is yet another example of the user/resource model that would work best with media produced around the time for which we are nostalgic.[12] However, once we start considering media made after the time for which we are nostalgic, yet depicting that time, we must realise a fundamental characteristic of media in general: they are in themselves renarrations. Mass-media products, such as movies, books or documentaries, especially those about the past, necessarily make a selection; they offer a point of view, and therefore, they always necessarily imply a reevaluation. Thus, the concept of scaffolding becomes even more relevant.

[12] For example, there is a noticeable difference between a movie from the 50s, depicting society through the lenses of its own time, and a movie about the 50s, depicting instead that same society in a critical or romanticising way.

These cultural products represent not only a support for our memory; they also (and most importantly) represent a scaffold to the processes of nostalgic selection and renarration themselves. As a matter of fact, the structuring of the renarration of our past is necessarily co-dependent on the renarrations of the past which the environment offers us and with which we engage. This can become more apparent if we think of childhood nostalgia in general. Even though in childhood nostalgia, unlike in other forms, such as political nostalgia, we exclusively deal with experiences we actually lived, those experiences are not nostalgic *per se.* They become nostalgic only after they are presented as such (Hutcheon 2000; Boym 2001; Lizardi 2015). or, in other words, when the processes of selection and reevaluation (or renarration) take place. Even though these processes could occur independently, more often than not they are integrated by the selections, reevaluations and renarrations already present in the environment in the form of media.

Now a political problem arises. The scaffolds through which we make this selection and renarration can be 'hacked'. To better understand this, I refer to Slaby's (2016) concept of mind invasion:

> The term "mind invasion" is intended to capture some of the ways in which it is exactly not my individual decision to employ a mind tool in the pursuit of my self-avowed goals, but rather forms of pervasive framing and molding effected by aspects of technical infrastructure and institutional realities. (6)

Affective mind invasion takes place when an individual adopts affective dispositions that are typical of a specific environment (e.g. from the corporate workplace to the world of sport and from academia to the army). In mind invasion, the affective dispositions and patterns of interpersonal interaction that individuals adopt are not only considered normative in the environment in question (see Colombetti & Krueger 2015) but also adopted without the full awareness or consent of the subject.[13] Thus, the new affective disposition is detrimental to the subject and beneficial to those who have more control over the environment. For example, Slaby analysed the corporate workplace where, over time, employees adopt patterns of interpersonal interaction, emotional experience and expression, made possible through environmental scaffolding. Employees might feel the affective need to always be reachable, even when not at work. Technologies such as email and smartphones support this affective attitude. Even though employees are those who actively engage with the technology, the affective attitude

[13] Stephan & Walter (2020) argue that mind invasion takes place when structures present in the environment reach inward into the individual. Such invasion can be used with the consent of the individual, as in the case of psychotherapy, or without her consent, such as in cases of manipulation.

that results from this engagement is only beneficial to the employer and can even be detrimental to the employee, who might feel guilt or anxiety when she is not reachable (Slaby 2016: 9-11).

Mind invasion can account for some forms of political restorative nostalgia. This nostalgia usually manifests itself in environments such as the fascist nation or party, in which symbols and rituals are deliberately and systematically employed to exalt the greatness of the past of the nation and the envisioned continuity of that past with the present. For example, fascist Italy used symbols of Imperial Rome, such as the fasces and the eagle, as omnipresent reminders of the ancient greatness of Italy (Giardina 2008), which Italians were meant to restore. Also, the creation and popularisation of rites, festivities and architecture (Giardina 2008) were, in a way, 'mind tools' (see Slaby 2014: 35) adopted to invade the minds of many Italians who otherwise probably would not have been nostalgic at all. Since many Italians were 'victims' of restorative nostalgia, they considered themselves not as nostalgic persons but as protectors of a continuity of identity that, in reality, was nothing more than the product of a myth (see Giardina 2008).

When we try to apply mind invasion to childhood nostalgia, it is not easy to identify a specific environment in which our mind is systemically invaded, in order to develop a certain exploitable nostalgia. A possible way to overcome this impasse would be including 'digital spaces' in the notion of mind invasion.[14] As a matter of fact, targeted ads might be a good example of how our mind can be invaded on the web. For instance, a person who browses YouTube in search of cartoon theme songs that might alleviate her childhood nostalgia, might be profiled as a user who is into collectibles related to those cartoons. As a consequence, she might be bombarded by ads that try to sell such collectibles. Were she to click on such ads, they would become more frequent and more specific. The omnipresence of such nostalgic reminders would then transform the browsing experience from a relief into an indefinitely prolonged nostalgic longing, to which the user would not normally consent.[15]

The idea of being used by mind tools, rather than consciously using them, helps to explain important aspects of childhood nostalgia. Authors, such as Lizardi, emphasise how highly marketable childhood nostalgia is and the mass-media industry's keen interest in nourishing a kind of nostalgia that relies on the continuous consumption of the material it sells (Lizardi 2015). As

[14] For instance, Stephan & Walter (2020) include social media in the list of tools that can invade the mind.

[15] Even if he does not talk of targeted ads but of pop culture in general, Lizardi (2015) has similar concerns.

we have already seen, things become nostalgic and, thus, profitable only after they are presented as such. By producing media that reuse pop culture relevant when the adults of today were children (see Lizardi 2015), the media industry performs a *de facto* selection and a reevaluation of that pop culture, making it relevant to us once again. The audience identifies that media as nostalgically relevant not because they independently think that part of their childhood is still important (see Lizardi 2015) but because their evaluation is invaded by the offering of the environment. Oblivion is as important as memory in the shaping of our nostalgic narrative (Hutcheon 2000); without it, the selection performed by nostalgia would be impossible. In a way, these media have taken away the ability to forget (Reynolds 2011; Lizardi 2015). They enhance memory to a degree that is detrimental to the subject. The subject can no longer determine whether something seems relevant to her own nostalgic renarration because that thing bears actual importance for her identity and personal history or simply because that thing is presented externally as relevant. Clearly, in these cases, the selection at the core of the nostalgic renarration is not the spontaneous activity of the subject or the product of active engagement by someone who structures his nostalgia through the autonomous use of material culture. Rather, this selection is engineered to be vague enough to appeal to the masses. As a result, the renarration of each individual will tend to increasingly open up to the inclusion of elements of pop culture and, in turn, to nourishing a nostalgia characterised by a longing that the consumption of media that reuse these pop elements can satisfy.

Lizardi (2015; 2017) acutely analyses the current tendency in mass media to exploit nostalgia. However, I believe that he stresses too much the importance of particular artefacts and texts in our longing. He says that we can be nostalgic for beloved texts and artefacts with which we grew up and for the experience we had in the past by engaging with them (Lizardi 2015). What he calls 'mediated nostalgia', i.e. nostalgia experienced through contemporary media, essentially intervenes by shaping the attitude we have towards those artefacts and texts (and related experiences). By reinterpreting Freud (1917), he argues that the media encourage either a melancholic nostalgia or an attitude of mourning. Unlike the latter, the former cannot let go of the object of libido (in this case, the texts and artefacts from childhood and the experience of them in the past) because, rather than being presented in its original context, it is reconstructed and idealised (Lizardi 2015). Instead, I believe that when we think we feel nostalgic attachment to texts and artefacts (and the experiences we had of them) from our childhood, it is primarily (even when not consciously) because they allow us to connect to and shape the actual object of our longing – that is to say, an idealised (or renarrated) childhood. We still require texts and artefacts

to fully experience and satisfy our nostalgia. But since they are not the object of our longing and only means to an end (or, to be precise, the scaffolds of our nostalgic longing and its satisfaction), I believe they are interchangeable to a certain degree. As we have already seen, the reevaluated moments and memories selected to renarrate and connect to our beloved lost time are not set once and for all. Rather, they are always open to changes which are reflective of our present or desired identity. Since these moments are somewhat interchangeable, even more so is the material culture (and the texts we consume through it) that can scaffold this selection. It is precisely this interchangeability that makes these scaffolds so easy to be selected *for us* rather than *by us*.

Moreover, the constant production of media that implicitly try to shape and, thus, exploit our nostalgia does not simply 'invade' the process of selection and rewriting of our nostalgic narrative. It also diachronically scaffolds how we experience childhood nostalgia. As we have already seen, we live in a world in which the past is constantly available through technology but, in a way, a past thus recorded and accessible also becomes inescapable (see Hutcheon 2000; Lizardi 2015). The more we engage with this kind of material, the more we will rely on it to synchronically scaffold our nostalgia. Hence, the media industry contributes to the formation of a nostalgia that might reshape our narration. This nostalgia requires the products sold by the mass-media industry to be fully experienced and satisfied.[16] This kind of nostalgia seems to be radically different from the one felt by the retired athlete of the example in section 2 above. While his nostalgia is the reflection of truly important aspects of his personal history, the childhood nostalgia engendered for the masses seems by comparison completely construed and detached from the personal history of individuals. I do not want to insinuate that nostalgia involving collective experiences of the past, such as engagement with the pop culture of our childhood, is intrinsically wrong – quite the opposite. If anything, nostalgia is very much a 'collective' emotion, in the sense that the past for which we are nostalgic is always necessarily a shared past (Boym 2001: 54; Wilson J. 2005). There is nothing wrong in using material culture (including elements of pop culture)

[16] I share with Lizardi (2015) the concern that most of the media elaborating texts from the childhood of the audience are manipulative. I do not agree with him when he uses Jamesson (1991) to state that this manipulation can also lead to an uncritical vision of the past in our society. Contemporary mass media that try to piggyback on nostalgia are not interested in depicting society as it used to be as preferable to today's (as the plethora of examples that Lizardi offers shows). Demonstrating that the mass-media industry generates in our society an uncritical attitude towards the past would require further research, since this societal change would not be the main goal of this industry, but merely a consequence of its marketing strategy. Nevertheless, a systemic and focused mind invasion, such as the one we saw in the example of fascist Italy, can indeed form a society that has no critical interpretation of the past.

from or about our past to scaffold the shaping and satisfaction of our nostalgia. However, we should be more aware of the fact that the processes of reevaluation and renarration cannot be completely fulfilled autonomously, a fact that can be exploited for commercial or political ends.

7. *Conclusions*

In this paper, I offered a multidisciplinary analysis of nostalgia, focusing particularly on how the media we consume through material culture scaffolds the experience and structuring of this emotion. In our environment, certain niches are structured in such a way as to scaffold not only our memory but also the processes of selection and renarration that shape the object of nostalgic longing, an irretrievable time positively reevaluated and renarrated, sometimes to the point of idealisation. If we identify these processes with the 'bitter' part of nostalgia, we could say that the environment scaffolds the 'sweet' part too. Engaging with material culture that we can connect to this renarrated time alleviates the sense of longing, by experiencing in the present what characterised our lost time, according to our renarration of it. This alleviation is always time-limited and incomplete, since what we long for is the lost time idealised as a whole, not the particular experiences that, in this precise moment, we believe have characterised that past. In other words, media can scaffold nostalgia since they support the desired experience of contemplating the past. The scaffolding process in this instance is possible because there is a complementarity between the structure of the emotion and the structure of the scaffold. The former is a longing for the continuity with the renarrated past, the latter constitutes a bridge to that renarrated past. Moreover, a different kind of scaffolding is also possible because there is a correspondence between the structure of the emotion and the structure of media: they are both renarrations. The interactions with the scaffold allow to rearrange the pieces of the past and revaluate them. Rather than doing this through memory and imagination alone, the subject can rearrange pieces of media to constitute a renarration that suits her. Through the examples concerning childhood nostalgia, I showed how this emotion wavers between extremes. On the one hand, childhood nostalgia can resemble restorative nostalgia – not because we delude ourselves into thinking that the past can come back but because we can fall victim to a nostalgic selection and renarration that is not the product of our free reflection but, rather, is structured to take advantage of us. In a larger sense, the concept of mind invasion can describe this commercial exploitation of our childhood nostalgia by contemporary mass media. A proper mind invasion that structures a restorative nostalgia to accommodate political goals can happen in environments

that are systemically reorganised and controlled, as happened in fascist Italy. On the other hand, media can offer us the possibility of structuring our childhood nostalgia the way a person who feels reflective nostalgia would: freely, actively, self-consciously and sometimes ironically. A nostalgia thus structured would not simply reveal who we are and want to be. It can also help us define and redefine our own identity by constantly evaluating and reevaluating the relevance of precious moments of childhood while, at the same time, enjoying the bittersweet mosaic we put together by freely arranging those moments.

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Music is not even language-like: Analyzing Kivy's view on music and language

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Abstract: In this paper, I challenge the idea that music is language-like, in the sense it has a semantic-like dimension, as apparently implied in Peter Kivy's view on the relationship between music and language. Kivy suggests that music is semantic-like because it expresses something at the level of meaning which appeals to "musical expressivity". Musical expressivity is captured by the emotive properties constituting the musical content and recognized by a competent listener. I discuss two positions on musical expressivity, cognitivism and emotivism, which characterize the two aspects of musical expressivity differently – the emotional experience of the listener, and the musical objects and their features – the connection between them, and how they shape musical content. I conclude that since none of them provides an exhaustive explanation of musical expressivity, we should abandon the idea that music is semantic-like and, *a fortiori*, that music is language-like, at least within a framework which considers the semantic dimension of music to be related to emotive properties and musical expressivity.

Keywords: language; music; semantics; musical content; meaning; emotions; emotive properties; musical expressivity

1. *Introduction*

Music and language share their basic constituents – sounds and their audible properties, such as pitch, loudness and timbre – at least when comparing speech sound with musical sound, as opposed to written language and written music. Like other art forms such as painting and sculpture, music and language are also both used to communicate. Leaving aside these basic and very intuitive commonalities, other similarities between language and music can be examined at different levels. There are at least four levels of analysis where we might individuate similarities between music and language: meaning, translatability, cognition, and perception.

1) Analysis at the level of meaning involves determining whether music has content that expresses such a meaning or whether it communicates something approximating the meaning expressed by language.

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2) Analysis at the level of translatability assumes that music has meaningful content – regardless of whether such meaning equates to linguistic meaning – and investigates whether such meaning can be expressed in words. Such analysis examines the translatability of musical content into linguistic terms. Translatability of musical content is often intertwined with the more general question of the ineffability of aesthetic content.
3) Analysis usually carried out at the cognitive level may verify whether the cognitive capacities for acquiring and using musical idiom work in the same way as those for acquiring and using language.
4) At the perceptual level, by comparing spoken language and music we can assess whether the cues and principles that determine how the phonemes grouped into words to form sentences – and then segregate them from other words to form other sentences – resemble the cues and principles that determine the grouping of notes into melodies and harmonies, and that then segregate them to form other melodies and harmonies (Bregman 1990).

This paper examines the first level of comparison: the possible similarities between music and language and the meanings they may express. I focus on natural languages and on music labelled as "absolute" or "pure" music, namely, instrumental music with no text, or references to other extra-musical elements. I have restricted my analysis to Western music, usually considered to be music composed in the Western tradition, from ancient Greek times to the present day. I discuss Kivy's (2007) view on music and language, in particular his statement that music is not a language but is *language-like*, since it is similar to language in a weak, analogical sense. Kivy suggests that music is language-like since it has a syntax, and although it lacks any semantic component akin to linguistic semantics, it still has emotive properties that constitute its content and can be recognized by a competent listener.[1] Therefore, Kivy appears to be suggesting that music has a semantic-like aspect, although he does not explicitly state this. Like natural languages, music has a syntax and a semantics, although linguistic syntax and semantics differ from musical syntax and semantics. I agree with Kivy, and propose an even more extreme claim: that music is not *even* language-like. I will limit my analysis to the semantic-like dimension of music and show that semantics have no place in music since it does not resemble semantic language in even a weak or analogical sense. To justify my assertion, I will challenge the idea that there is any semantic-like dimension of music captured in terms of the emotive properties that constitute its content – which seems to be Kivy's notion

[1] Throughout the paper, by "listener" I always mean "competent listener". A competent listener is someone who has some familiarity with Western music and can at least distinguish it from, say, the music of the African or Indian traditions.

of musical semantics. I will do so by reviewing key literature on the relationship between music and emotion, including Kivy's. I will then conclude that there seems to be no exhaustive view which clearly explains the link between the alleged emotive properties of music and the fact that these can be recognized by a listener. As there is currently no satisfactory explanation for the emotive properties of music, there can be no semantic-like dimension which explains musical content. Therefore, music is clearly not language in a weak, analogical sense. Music is not even language-like.

2. *Music is language-like: Kivy's view*

In the following paragraph, I will present Kivy's view on music and language, and show how his view is committed to the idea that music has a semantic component which is characterized in terms of musical emotive content.

Kivy's discussion of the commonalities and differences between music and language begins with the following quotation:

> When Franz Joseph Haydn, 'papa' Haydn to his friends, decided, in 1790, at the advanced age of 58, to make an extended trip to England, Mozart is supposed to have exclaimed: 'Oh, Papa, you have had no education for the wide world, and you speak so few languages.' Haydn's legendary reply was: 'But my language is understood all over the world.' (Kivy 2007: 215)

This famous anecdote establishes a context which leads Kivy to conclude that music is language-like. In the quotation, Haydn suggests that there is no need to learn many languages to be understood, since "speaking" the language of music will allow him to be understood "all over the world". This is because music is a language with an international (that is a "universal" character). In the quotation, by "all over the world" Haydn is referring to his own world, namely the European countries of Austria, Germany, France, Bohemia, France, England, and Italy (*ibid.*). According to Kivy, Haydn's answer rightly suggests that in his world, his music would be understood and taken as a *lingua franca* because it was part of its culture. Moreover, music can be learned naturally and effortlessly when the listener is immersed in it, like any natural language such as French or German. The wider universality of music (the fact that it can be understood more broadly than a natural language) and people's ability to learn it make it language-like: "[…] for the broader understanding of European music, as opposed to European languages, must be that natural languages have a semantics as well as a grammar. You have to know what French words mean to understand French. But you don't have to know what the themes (or whatever analogue to words you choose) of a classical symphony mean to understand

it. They don't mean anything. One way of putting this is to say that, unlike natural languages, music of the kind Haydn wrote has a 'syntax' without a semantics" (*ibid.*: 216).

What Kivy means by "understanding" a classical symphony without knowing the themes will become clearer later when I discuss his statement on the emotive properties of music (see paragraph 3.2). The passage above states that while natural languages have syntax and semantics, music has a syntax but lacks a semantic dimension, which partly explains its apparent international character. Saying that music has a syntax but lacks a semantics already weakens the claim that music is language-like since, in order to be language-like, music (even in a weak or analogical sense) should necessarily possess both features of language. Nevertheless, later in the same paper, Kivy suggests that although music lacks a semantic dimension understood in linguistic terms, we can still talk about a semantic dimension at the level of meaning by employing the "vocabulary" of emotions (*ibid.*: 220). For Kivy, music is language-like since it has "universally recognizable emotive qualities" which are emotive building blocks expressed by a "whole arsenal of musical themes and harmonic techniques whose emotive character became instantly recognizable to the competent listener" (*ibid.*). Kivy adds that some sort of musical meaning is unavoidable since "it is almost impossible to refrain from calling these emotive building blocks I have been alluding to an emotive 'vocabulary', making up an emotive musical 'language'. And as a *façon de parler* it is perfectly harmless. Music is certainly language-like in having these universally recognizable emotive qualities" (*ibid.*). These emotive building blocks are the basis of a theory of musical content intended to explain why music can be considered an international language: a competent listener has learned to recognize the emotions expressed by music in the same way as when learning to speak a natural language. The shift from saying that music lacks a semantic dimension to the idea that some weak form of meaning remains is evident when Kivy writes that "[t]he notion that music is a language of the emotions, then, like the notion that music is an international language, has a kernel of truth in it: it reveals to us one of the ways in which music is language-like. It is language-like in that the competent listener to Western music – […] – can recognize the emotive qualities of the music in a consistent manner. And in this regard, it is language-like too, in that the ability to 'read' the musical emotions, like the ability to read French or German, is not innate or cross-cultural. Just as you must learn to read French or German, so you must learn to 'read' the emotions in Western music. Music is not a language or the language of the emotions. But its emotive character makes it language-like in that respect" (*ibid.*: 222).

Just like language, music has a syntax, and just like language it has a level of meaning that still provides musical content, albeit not a fully semantic one. This is how I interpret Kivy's view. In addition, the fact that a competent listener can recognize the emotive qualities of music and must be trained to been able to 'read' musical emotions indicates that the use of emotive musical 'language' it is not a mere *façon de parler*, as Kivy maintains.

I will challenge the claim that music is language-like by discussing the idea that music has a semantic-like dimension,[2] that is, by challenging the claim that music is the expression of emotions made universally recognizable through musical content with embedded emotive qualities. I will argue that music is not language-like since it has no content which is close enough to any semantic dimension captured in terms of emotive qualities. Therefore, music is not even language-like in a weak semantic sense. To support this assertion, I will examine key views on musical expressivity as proposed in contemporary philosophy of music which characterize expressivity in terms of emotive properties, and show that none of them provides a satisfactory explanation of musical expressivity. of musical expressivity. We cannot conclude that music is language-like since it does not seem to have a semantic dimension, even in the weak sense of *merely* being the language of emotions. Therefore, music is not even language-like.

The originality of this paper lies in addressing possible similarities between music and language when considering the emotions involved in understanding music, when these subjects are generally discussed separately.[3]

3. *Musical semantics as a way of expressing emotions*

I am skeptical about the claim that music is language-like if its semantic aspect is characterized by expressivity captured in emotive terms. The views on musical expressivity proposed in the current debate on the relationship between music and emotion do not seem to exhaustively account for this relationship.

There are two main views in the philosophy of music which explain the expression of musical emotion and how a competent listener recognizes them. These can be organized into two distinct categories, depending on the "location" they attribute to emotions, whether in the ear of the listener or in the music itself (Di Bona 2019; Kania 2017; Lentini 2014). These are the emotivist view and the cognitivist view. In the following passage, Kivy (1990) presents these positions as two different parties to an ancient dispute:

[2] For a clear and exhaustive discussion of musical syntax and its similarity with linguistic syntax, see Swain 1995.

[3] I would like to thank one of the reviewers for identifying this specific point of originality.

An "ancient quarrel" runs through the philosophy of music. It concerns the relation of music to the emotive life, and I will characterize it here as the quarrel between musical "cognitivists" and musical "emotivists" […]. Those I am calling musical emotivists believe that when, under normal circumstances, musical critics, theorists, or just plain listeners call a piece of music (say) "sad," it is because it makes us sad when we listen to it; and what they mean by "sad" music, I will assume, is music that normally arouses sadness in the normal listener. The musical cognitivists, like the emotivists, believe that it is proper sometimes to describe music in emotive terms. But unlike the emotivists, they do not think that sad music is sad in virtue of arousing that emotion in listeners. Rather, they think the sadness is an expressive property of the music which the listener recognizes in it, much as I might recognize sadness as a quality of a dog's countenance or even of an abstract configuration of lines (Kivy 1990: 146-147).

The two positions differ significantly since they assign the listener a different role in the attempt to characterize the emotive properties constituting musical content. While for the emotivists the listener has the "power" to give substance to emotive properties, for cognitivists the listener merely recognizes the emotive properties which exist independently in the musical object. For the emotivist, it is only when emotions are aroused in the listener that they can properly recognize such emotions and attribute these to the music. For the cognitivist, the opposite is true: musical content already expresses emotions, and the listener should be able to recognize them by identifying similarities between the musical content and human emotional expression.

As we will see, even though both positions seem to capture some intuitive facts about music, neither can fully explain emotive properties or exhaustively describe how musical emotive properties are connected to music and the listener. In the next two sections, I will further analyze the principle emotivist and cognitivist views to make clear my assertion that they are not fully exhaustive.

3.1. The Emotivist View

Emotivist (or arousal) views claim that musical expressivity must be characterized by the emotions aroused in the person when listening to music. These expressive properties are dispositional properties and come into existence only when aroused in the experience of the listener while she listens to music. We are moved, feel musical emotions, and then recognize the emotions as belonging to the musical piece. Different versions of this view have been suggested by Speck (1988), Robinson (1994; 2005), Ridley (1995), Matravers (1998; 2003), and Nussbaum (2007). I will briefly present the main ideas in theories proposed by Matravers, Robinson, and Ridley since these are the most representative and fully developed within the emotivist framework (Di Bona 2018: 161).

Matravers's (1998) version of emotivism can be expressed by the following statement: a piece of music expresses E if, and only if, that piece of music aroused E in the listener. To determine the emotion being expressed by that music, we should look at the emotions it stimulates in the listener. What matters for musical expressivity, then, are the emotional reactions of the listener and their musical experience. The musical object[4] generates a certain emotional reaction in the listener, and this is the only way to individuate musical expressivity. Matravers adds that it is not a matter of merely reacting emotionally when appropriately stimulated, since the listener should also be somehow aware of the emotive properties that trigger their reaction. Moreover, the kind of emotion that music stimulates is not fully-fledged but a mere feeling, a sensation that lacks cognitive content: "[t]he state which is aroused by an expressive work of art (for a qualified observer in the appropriate conditions) has no object. It is neither 'sadness *about* something' nor 'sadness at the thought *that* something'" (1998: 147-148).

Robinson (1994) focuses on a central feature of the emotivist view, namely, on the relationship between the expressivity of music and the arousal of emotions due to the listening to such music. She states that there are emotions which do not require any cognitive mediation since they can be suddenly aroused by merely listening to the music. That is, without being aware of the kind of music we are listening to, whether a symphony or a quartet, we can simply feel a certain emotion. According to Robinson: "we may not even be aware why we feel as we do: the effect of the constantly shifting harmonic pattern affects us 'directly' without conscious cognitive mediation […]" (1994: 19). To conclude, Robinson claims that music can quite directly: "[…] make me feel tense or relaxed; it can disturb, unsettle and startle me; it can calm me down or excite me; it can get me tapping my foot, singing along or dancing; it can maybe lift my spirits and mellow me out" (*ibid*.: 18).

The last emotivist I will briefly present is Ridley's (1995; 2004). He shares Robinson's view and claims that emotions are aroused in the listener directly. More broadly, he starts from the conception of music as something embedded in our life, and claims that expressiveness is conceptually connected to our capacity to feel. Because music is embedded in our life, it shares some characteristics with it, especially concerning emotive features. The resemblance relationship between life and music is based on the fact that music profiles

[4] There is a distinction between the musical object and the musical content. In this paper, by "musical object" I mean the musical piece, which can be a symphony, a quartet, a trio, and so on. The musical object has musical features, such as harmony, melody, and rhythm. With musical "content" I mean what can be expressed by an occurrence of the musical object. The musical content is usually characterized in terms of expressivity of emotive qualities.

– which are made of harmonies, melodies, dynamics, and all the syntactic musical elements which are called "melisma" (Ridley 2004: 2) – share the "melismatic gestures", which are expressive human behaviors that include vocal and physical expression. Music melisma resembles something expressive, which is human expressive behavior. The concept of melisma helps to characterize the link between musical expressivity and human expressivity. Moreover, listeners should also respond empathically to the musical object, otherwise the relationship between musical expressivity and human expressivity cannot take place. As will become clear after discussing the cognitivist position in more depth below, Ridley's view overlaps with the cognitivist position because it introduces an isomorphic relationship between human emotive behavior and musical content that explains the connection between music and human reactions. According to Ridley, the empathic response of the listener is the key to understanding this connection, as is evident here: "It is rather like my coming to appreciate the melancholy of a weeping willow only as the willow saddens me: I could, of course, merely identify the expressive posture which the willow's posture resembles; but instead I apprehend its melancholy through a kind of mirroring response. I respond to it sympathetically" (2004: 52).

After this short presentation of the core ideas of the most representative emotive proposals in the recent literature, I will now introduce two key concerns that prevent us from concluding that these views successfully characterize musical content as expressing emotive properties (Di Bona 2019: 168-173).

When aiming to characterize musical expressivity, all of the emotivist positions I have introduced above consider, on the one hand, the musical object and its properties – the musical piece with its harmony, melody, and rhythm – to be a secondary, negligible element, while, on the other hand, the listener's reaction to be what really matters. However, if the emotive reaction of the listener is key to providing the correct explanation for the musical content, then we cannot really identify the specificity of this content since we cannot grasp the specificity of musical experience as distinguished from similar experiences caused by different objects (Di Bona 2019: 173). If within the emotivist accounts, musical expressivity is based uniquely on the subjective reactions of the listener, then these accounts do not capture the aesthetic specificity of the musical object. Musical experience seems to be equated with the experiences arousing similar emotive reactions to musical emotions but generated by different causes – such as sexual experiences or the various experiences we have of losing a loved one, loving another, the fear of the unknown or experiences we have under the effects of drugs. The problem is that the same expressive emotional state may be triggered by an object other than the musical object, the emotivists should provide at least one criterion to distinguish between two

apparently identical emotional experiences– for example, where the perceiver feels equally happy – but which are produced by different objects. This criterion does not seem to be suggested.

Another concern about the emotivist view is that it ignores crucial features of primary importance for musical expressivity, namely, the "causes" of musical expressivity – melodic phrases, harmonic structures, musical form, the specific genre of the piece of music, etc. – because this view considers the musical object itself a unimportant element, a mere "arouser" of specific emotions (Di Bona 2019: 173). It seems unreasonable not to highlight the importance and complexity of the musical object for a theory on musical content. This is because musical experience cannot be the mere occurrence of an affective state lacking any aesthetic feature which undoubtedly connects to the musical object itself, in the sense of being bound to a particular musical object in a necessary way.

Correctly understanding the characterization of the relationship between a musical object and emotion is challenging, and the emotivists fail to do so.

Let us now examine whether the main cognitivist positions provide an exhaustive theory to explain the importance of the emotional response and the relevance of the musical work.

3.2. The Cognitivist View

According to the cognitivist approach, musical content is constituted by the expressive properties a competent listener can usually recognize. Musical expressive properties are perceptual properties that can express different emotions; the listener is able to detect these when listening to music. When we see a St. Bernard dog, we cannot assume that he is constantly sad, even though his facial expression is always sad-looking. That is, his face is *expressive* of sadness, without *expressing* sadness; likewise, music is *expressive* of a certain emotion, without *expressing* that emotion (*ibid*: 168).

The cognitivist view must explain how expressive properties are embodied in music such that the listener can recognize them. This is only possible if the cognitivist can explain how someone becomes acquainted with the musical content expressing a specific emotion. Cognitivist views vary precisely because of the different answers they give to the question above.

Kivy (1980; 1990; 1999; 2002) supports the contour thesis of musical expressivity, in which there is a correspondence between music and the auditory and visual manifestations of emotions in humans. Human vocal expressions or gestures human beings have when having an emotional experience possess a typical contour. Music is expressive of an emotion when it shares this contour. For Kivy, there is a similarity between musical contour and the features that exemplify human emotional behavior. This similarity is the key to recogniz-

ing the emotions displayed by musical content. Moreover, this similarity helps to explain what Kivy means by understanding a classical symphony without knowing its themes: he merely means recognizing the emotions represented in the musical content.

Similarly, Davies (2011) proposes a correspondence relationship between music and human behavior. He claims that a listener can recognize the emotional properties of music because they resemble the auditorily expressive behaviors of emotional people. For example, a happy voice has a typical auditory profile. A melodic line in a passage of music expresses happiness when it resembles the typical auditory profile of a happy voice. For Davies, then, acquaintance with this correspondence relationship allows the listener to recognize happiness as expressed by musical content. To be more precise, the correspondence relationship which determines musical expressiveness "is that between music's temporally unfolding dynamic structure and configurations of human behaviour associated with the expression of emotion". Moreover, as we see the expression of movement in the objects that surround us: "[w]e experience movement in music—in terms of progress from high to low or fast to slow, say—but as well in the multistranded waxing and waning of tensions generated variously within the harmony, the mode of articulation and phrasing, subtle nuances of timing, the delay or defeat of expected continuations, and so on" (Davies 2011: 10).

On a slightly different note, Levinson (2006) proposes a contour theory according to which the listener recognizes a certain emotion only when they "see" someone, namely, when imagining someone represented in the musical content, a *persona*, who seems to express that specific emotion. One clear quotation about this is: "a passage of music P is expressive of an emotion E if and only if P, in context, is readily heard, by a listener experienced in the genre in question, as an expression of E" (Levinson 2006: 93). According to Levinson, the expression of an emotion requires someone to express it. Given that music is not a sentient being and hence cannot express emotion in a literal sense, we need to imagine that someone, a person, will express it. This is the only way for a listener to recognize musical emotion. We recognize someone feeling an emotion when we listen to music, and this explains how we come to understand musical content that expresses a specific emotion.

Maintaining quite a different but still cognitivist position from Levinson's, but always within the cognitivist position, Budd (1995) states that people do not always manifest their emotions visibly via an external behavior, since some emotions, like melancholy or gratitude, are not necessarily associated with bodily sensations or visible signs. Therefore, to recognize the emotions expressed by musical content we need to verify how we feel "inside" when moved by music. Budd appeals to the introspection of one's emotive life to individu-

ate musical emotions. While Levinson imagines that we recognize a specific emotion expressed by music because we attribute this emotion to an external character, an imaginary person, Budd (1995) conversely claims that we need to focus on our inner emotional states to achieve the same aim.

Following this brief outline of the main cognitivist positions, we can summarize their general view by saying that, compared to arousal positions, cognitivists explain the expressivity of music by maintaining the autonomy of the musical object, and highlighting the relevance of musical features and their crucial role. Nevertheless, these positions do not provide an accurately explanation of the embodiment of emotions in music. In particular, it seems that the different characterizations of the resemblance relationship – which should guarantee that the listener will recognize musical emotions – are not very informative and none of them can correctly describe how musical expressivity resembles human expressive behavior – whether it is the vocal expression of an imaginary *persona*, an inner emotional state or visible vocal expression (Di Bona 2019: 170). If almost anything can resemble anything else in some respect, we cannot identify a perfect isomorphic relationship which will undoubtedly match musical features to emotive auditory or visual expressions, considering the different ways in which such expressions can be presented. Trivedi clearly voices this concern: "[a]ll kinds of things may resemble how we vocally or physically or behaviorally express various mental states or the affective tones of these mental states, but they are not expressive of these mental states, even if we perceive these resemblances" (Trivedi 2011: 227).

Another more serious concern about the cognitivist view is that it seems to lack any explanation for a very intuitive fact about musical experience: why and how we are moved by music and feel emotions when listening to it, without the need for them to be represented in the musical content. If emotions are found in the music and emotive properties are uniquely embedded in the musical content, cognitivists must explain the emotional reaction that music often stimulates. Cognitivists are aware of this problem but they are in hurry to resolve it since they consider that emotional arousal in the listener is not necessarily connected to the expressive properties of the musical object. For them, recognizing expressive properties does not imply that the listener feels them. Moreover, it is obviously very often the case that humans first feel emotions and then attribute them to the musical object that is, in fact, responsible for them. The problem of taking into account the listener's undeniable emotional experience does not affect emotivism, of course, since this is deemed musical expressivity within this view. Emotivism suffers from the opposite problem: it does not acknowledge the importance of objective features in the musical object in shaping musical expressivity.

4. *Conclusion*

It is hard to accommodate the two fundamental aspects of musical experience in shaping musical content, namely, the subjectivity of the listener and the objectivity of the musical object. Nevertheless, any view on the expressivity of music and musical content must consider both aspects and offer a plausible way to connect them. Neither emotivism nor cognitivism exhaustively explain how musical content expresses emotive properties; therefore, we may conclude that we cannot use either to account for musical expressivity. We likewise cannot use any current notion of musical expressivity – a notion used by Kivy to suggest that music is language-like – which justifies the claim that music is semantic-like and, *a fortiori*, that music is language-like or similar to language in a weak or analogical sense. I refer here to musical expressivity since, in Kivy's view, the semantic component of music which makes music language-like is characterized in emotive terms. Of course, we can still claim that music is language-like and propose a characterization of the semantic component which we cannot describe in terms of musical expressivity. If we wish to maintain that music is language-like because it has a semantic component, two options remain. One is to wait for a better explanation of musical expressivity, in terms of emotive properties, which resolves the problems in cognitivism and emotivism. The other is to put aside these emotive properties and define musical expressivity in different terms. That might allow us to show that music is semantic-like by saying that although musical content has nothing to do with emotions (the idea that music is the "language of emotions" is, then, untenable), it still expresses contents that are either ineffable or appeal to value or beauty. I will leave future researchers to assess these options. The aim of this paper has merely been to explore the limits of a view on music and language from one of the most prominent contemporary philosophers of music in the analytic tradition.

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Fiat boundaries: how to fictionally carve nature at its joints[1]

Nicola Piras

Abstract: Boundaries are the outermost parts of objects, with a twofold function: dividing objects from their environment and allowing objects to touch one another.

The task of this paper is to classify and describe the human dependent boundaries, i.e., the so-called fiat boundaries, on the basis of the seminal work by Smith and Varzi. Roughly, a fiat boundary is a marker of discontinuity between two or more objects which relies on a human function assignment, usually called "fiat act".

In what follows I outline the different ways in which human beings make fiat boundaries out of nature. Along the way I shall give evidence that a theory of fiat boundaries can be useful to take up as a starting point for doing metaphysics and for giving an account of the ontology of both the material and the social world. The chief goal is to shed light on how some objects depend upon human beings: either in a deliberative or non-deliberative way; either a priori or a posteriori; by means of individual or collective act. Eventually, I will investigate the modal profile of fiat boundaries.

Keywords: fiat boundary; metaphysics; social ontology; geography

1. *Introduction*

What are boundaries? Roughly, boundaries are the outermost parts of objects, as already Euclid and Aristotle point out (Varzi 2015).

It is not difficult to provide some examples of boundaries:

1. The point vertex of a cone.
2. The borders of Italy.
3. The coastline of Sardinia.
4. The outermost layer of my body.
5. The end of the football match.
6. The beginning of my life.

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7. The surface of a desk.
8. The horizon.
9. The division between sexes.
10. The limit between sea and sky.

Some of them are zero dimensional, as in 1, 5, and 6, some other are one dimensional, as in 2, 3, 8, and 10, some other are two dimensional, as in 4 and 7. They may be spatial, as in 1, 2, 3, 4, 7, and 10, or temporal, as in 5 and 6, or neither of the two, as in 9. They are ontological dependent upon human beings, as 2, 5, 8, and 10,[2] the so-called fiat boundaries, or ontological independent, as in 1, 3, 4, 7, the so-called bona fide boundaries, or it is controversial whether they are fiat or bona fide, as 6, or are arguably a mixture of fiat and bona fide components, as in 9.

For the sake of simplicity in what follows I will focus only on spatial boundaries of physical objects, namely boundaries such as 2, 3, 4, 7, 8, 10.

Boundaries like these have a twofold function: to divide objects from their environment and to allow objects to touch one another (e.g., Chisholm 1983: 87; Sorensen 1998: 280-281; Casati and Varzi 1999: 72; Galton 2007: 387).

The paper aims to fill a gap in the literature. There are several useful papers that make good taxonomies and useful descriptions of boundaries, based on all different kinds of criteria, especially geographical (e.g., Galton 2003; Tambassi 2018). The task of this paper is to classify and describe only a subset of all boundaries: the human dependent ones, namely the so-called fiat boundaries as opposed to bona fide boundaries, the human independent ones. Roughly, a fiat boundary is an indicator of discontinuity between two or more objects marked out by a human intervention through a so-called 'fiat act'. A bona fide boundary is instead a discontinuity between two or more objects whose status is independent from human beings. This classification is carried out on the basis of the seminal work by Smith (1994; 1997; 2001) and Smith and Varzi (2000).

The plan of the paper is as follows. I develop in detail a theory of fiat boundaries, i.e. an account of the exact meaning of fiat. More specifically, I explain: (§1) how fiat boundaries depend upon human beings and (§2; §3) how fiat boundaries are created by means of a fiat act. Then, (§4) I classify different kinds of fiat boundaries.

The aim of the paper is to outline the different ways in which human beings make fiat boundaries out of nature highlighting their central role in our

[2] It may be argued that even 4 is a genuine case of a boundary that ontologically depends on human beings. However, roughly, an object ontologically depends on another object if and only if the former cannot exist unless the latter does. My skin can well exist even though I no longer exist, e.g., my skin can remain in existence after my death.

metaphysical picture of the world. I shall give evidence that the theory of fiat boundaries can serve as a useful starting point for doing metaphysics and for giving an account of the ontology of the material world. Along the way, I will shed light on how some objects depend upon human beings.

Just to take one example, although the border of a nation and the horizon are both fiat boundaries, there are several differences between them. In this paper, I consider both the similarities and the differences between those kinds of fiat boundaries, in order to frame the debate.

Before get started, let me spell out some useful assumptions on boundaries which are inspired by Cartwright (1975). Let *p* be a variable for every spatial point, *r* a variable that ranges over region, *o* a variable that ranges over objects.

(B1) a point *p* is a boundary point of *r* if and only if (henceforth iff) every open sphere about *p* have a non-null *intersection* with both *r* and the complement of *r*.
(P1) an open sphere about *p* is a region the members of which are all and only those points that are less than some fixed distance from *p*.
(B2) *o* is an open object iff it is located in a region *r* and none of the boundary points of the region *r* is located in a subregion of *r*.
(B3) *o* is a closed object iff it is located in a region *r* such that the boundary points of *r* are located in a subregion of *r*.
(B4) *o* is a partially open object iff it is located in a region *r* such that some boundary points of *r* are located in a subregion of *r*.

2. *Bona fide and fiat boundaries*

The dichotomy between bona fide and fiat boundaries was first introduced by Barry Smith in his (1997) and further refined in his (2001). That dichotomy was then employed for solving the problem of contact by Smith and Varzi (2000). However, the idea can be traced back to Stroll (1988: 183-212) who set up a "geometry of ordinary speech" which differentiated between abstract and physical surfaces.[3]

The intuitive idea behind the dichotomy is that there are some boundaries *in space* that depend on human beings and that do not necessarily take up space,[4]

[3] But not everyone likes the distinction, see Boniolo, Faraldo, Saggion 2009 for a different dichotomy.

[4] An object takes up space iff it is material and necessarily, it is the only occupant of a given kind of the region it actually occupies. The first clause states that an object has to be made of some material in order to occupy a region of space. The second clause, which relies on the so-called Locke's Law (Fine 2000), states that each region of space can host at most one guest of a given kind, e.g., a region

such as a national border, and some other that instead are human independent and necessarily take up space, such as the surface of a table. More accurately, the difference between the two kinds of boundaries is threefold. It regards (i) the relation between objects and human beings; (ii) the relation between boundaries and boundary markers; (iii) the causal efficacy. Therefore, we have three criteria for distinguishing bona fide boundaries from fiat boundaries.

The first distinction is that a bona fide boundary belongs to the furniture of the world, whereas a fiat boundary owes its existence to the human ways of representing, conceptualizing, describing, and perceiving the world (Smith and Varzi 2000: 402). In other terms, a bona fide boundary is human independent and a fiat boundary is human dependent. Human dependence is a particular case of ontological dependence. Usually, it is said that an object ontologically depends on human beings iff it cannot exist unless human beings do (Correia 2008: 1014). I am going to explain more in depth how human beings necessitate boundaries in the next pages.[5]

The second criterion rests on the relation between boundaries and boundary-markers. A bona fide boundary takes up space by marking a discontinuity between an object and its surrounding, e.g., the boundary of *o* marks the region in which the world stops to be *o* and begins to be something else. That is, the world behind the boundary is somehow homogeneous, the world beyond the boundary is somehow different. Instead, a fiat boundary is not necessarily a discontinuity in space, it can arise where there is a spatial continuity between two objects, e.g. between two administrative areas that both lay on a flat land. In this case the boundary marks a discontinuity without any spatial marker. To put it in other words: a fiat boundary is a human projection onto space and thus it does not necessarily correspond to a discontinuity that takes up space, whereas a bona fide boundary is an object in space, whose role is to be the boundary of a further, bigger object.

The third criterion is that a bona fide boundary is causally efficacious, whereas a fiat boundary is not (Smith and Varzi 2000: 402). A bona fide boundary enables that every operation which it undergoes was inherited also by the whole object it bounds, e.g., scratching a table entails that the table is scratched

table-shaped can host at most one table.

[5] Meanwhile, it should be noted that even if the boundary of an object is of the fiat sort, this does not entail that the whole object is fiat too. Let us consider a closed three-dimensional object *o*. The boundary of *o* may be either bona fide or fiat. Its boundary allows us to speak about "this" object as *o* and *o* owns its individuality due to its boundary. Otherwise it turns out to be epistemologically and ontologically impossible to discern *o* from its complement, since it would not be defined where one begins and the other ends. Nonetheless, the stuff of which the object is made of can be fiat or bona fide regardless of the status of its boundary.

since one of its part is so. Instead, a fiat boundary cannot be causally efficacious since it is not, strictly speaking, in space. Thus, a bona fide boundary behaves as every other object in space, whereas a fiat boundary is a representation that we pretend that behaves as a boundary in space. In that sense fiat boundaries fictionally carve nature at its joints.

We can explain the difference between bona fide and fiat boundaries in a nutshell by summing up the three criteria as follows:

- Human Dependence criterion (DC): bona fide boundaries are human independent, whereas fiat boundaries are human dependent.
- Heterogeneity criterion (HC): a bona fide boundary occupies and is located in space, whereas a fiat boundary is only located in space. That is, a bona fide boundary has to coincide to a discontinuity in space, a fiat boundary may or may not coincide to a discontinuity in space.
- Causal criterion (CC): a bona fide boundary has to be causally efficacious.

The CC criterion needs an explanation since it is the more controversial one. Let me just remark that I do not hereafter assume that every object in space has to be causally efficacious, but only what I have already said: a boundary has to be causally efficacious, otherwise it would lose some of its peculiarities.

Let us consider a three-dimensional object *o*. Let us take whatever possible operation that can be performed upon the surface of *o*, i.e. its boundary. Accordingly, each of those possible operations is also performed upon *o*. Instances may be: painting, scratching, polishing, cleaning, seeing, touching, and so forth.

The converse clearly does not hold. Indeed, since *o* has one dimension more than its surface, it may be subject to more operations than its surface: rolling, bouncing, cruising by, and so forth.

Although it seems obvious, Stroll (1988: 21) set forth an important constraint to it. He claims that not every operation performed upon a surface is an operation performed upon the whole object. For instance, certain intensional activities such as admiring the surface of *o* are not performed upon the whole *o* but only upon its surface. Suppose Stroll is right. Then, there would be a possible way of admiring the surface of *o*, without admiring *o*. According to the notion of boundary I set up, the boundary of *o* is a part of *o*. Assume it is the case. So, when we admire the boundary of *o* we are admiring a part of *o*, perhaps regardless the remainder. However, *o* is in a certain sense admired: it is admired in one of its parts and since *o* is every one of its parts jointly taken whatever principle of composition you prefer, *o* is admired. Indeed, if we detach the surface of *o*, every new operation after the detachment is not performed upon the surface of *o* anymore, but upon a two-dimensional object

that was the surface of *o*. Therefore, every operation, even if intensional, is performed upon *o*.

At any rate, the reader may not accept CC and, nevertheless, she may accept DC and HC. The three criteria are quite independent, although objects which occupy space are usually causally efficacious and human independent. Nevertheless, I can drop CC here due to its relative independence. I concentrate only on DC and HC to make a definition of fiat boundary:

– Fiat Boundary: x is a fiat boundary iff (i) it is a boundary and (ii) it necessarily is human dependent and (iii) it possibly does not correspond to any discontinuity in space.

The point (i) is the straightforward clause that has to avoid that every arbitrary object can count as a boundary even when it does not have the necessary features. The clause (ii) is HD with the modal strength of necessity and the clause (iii) is HC with the modal strength of possibility.[6] The two different modalities should convey that only an outcome of a human being can be a fiat boundary and a human being is free to determine where to give rise a new fiat boundary. By means of the same but opportunely modified constraints we can also obtain the notion of bona fide boundary.

– Bona fide Boundary: x is a bona fide boundary iff (i) it is a boundary and (ii) it necessarily is not human dependent and (iii) it necessarily corresponds to a discontinuity in space.

The clause (i) is trivial as in the former definition. The clause (ii) states that a bona fide boundary must not depend on human beings for its existence. The clause (iii) states that it has to correspond to a discontinuity in space.

3. *Human dependence*

Consider the boundary between Morocco and Libya. In the region between them there is no spatial discontinuity, no barrier or natural or artefactual border. Nevertheless, there is a line in the maps of that region, i.e., the boundary between them. Although that boundary is not spatially present, it exists as long as international treaties recognize it. It is a human creation more akin to an

[6] As an anonymous referee pointed out that the clause (iii) requires that a fiat boundary *b* could have not corresponded to any discontinuity in space and hence the correspondence to a discontinuity in space is a contingent feature of *b*. That is, there is a possible scenario in which the northern boundary of Italy does not correspond to Alps. I think that it is precisely one of the main features of fiat boundaries: the possibility to not correspond to spatial object, such as the southern boundary of Libya.

institution, such as a church, than a physical artifact, such as a wall. Boundaries like this are made by human beings without manipulating the space, i.e., without an interference in a spatial causal chain, but instead by outlining and recognizing them within institutional frameworks, such as treaties, collective beliefs, tales, memories and so on. And those boundaries depend on human beings insofar as they would disappear if they were erased from human representations. The classic treatment of this kind of human dependence was developed by Searle (1995: 156), whose claim can be stated as follows:

– HDS (human dependence according to Searle): Necessarily, x is human dependent iff it is a priori dependent on human beings' concepts.

An object a priori depends on human beings' concept when its identity criteria are conceptually fixed before it is brought into being. Namely, there is a concept, or a set of concepts, that fix the identity criteria of such object before the object itself exists. Such concepts dictate what features an object must have in order to be a boundary, e.g., the thickness, the color, the spatial coordinate, and so on. A dependence relation like this yields the epistemic advantage to have a full knowledge of the dependent object, unlike the natural object that should be discovered.

However, as Borghini (2014) claims, not every fiat boundary responds to such kind of a priori dependence. Consider a dancer who is playing *The Nutcracker*. The boundary of her dance holds all the required features to be of a fiat sort: it is a boundary, it is not marked by a discontinuity in space, it is human dependent. The boundary of a dance is drawn by the dancer with her body's movement within an interval of time. Such movement has to follow a precise script: with which foot to start, how to move on the stage, how to interact with other dancers, how to sway to the music, and so forth. We have then a situation like this: the body of a dancer occupies a certain volume of space in a fixed interval of time. Once a dancer moved through space from one region to another she defines the boundary of her dance without leaving any physical marker in her wake. Hence the boundary of her dance does not correspond to any discontinuity in space. That is, the full trajectory of the dancer movement is not wholly occupied by the dancer's body but just outlined by her, who can at least occupy one region at a time and not the set of all her dance movements all at once. Nevertheless, the dance boundary is not just the one of the dancer's body, it is instead the whole boundary of her trajectory, which is not completely physically marked by her body but it is made out of thin air.

Although the boundary of the dance is not material, it is necessarily needed in order to evaluate whether the dance is correctly performed: namely, whether the dancer abides by the script that states how that dance has to be

performed. Clearly, the correct performance of the dance can be evaluated only once it is over for a number of reasons. For instance, since every stage where a dance is performed is different, on every different stage a different performance is carried out. Furthermore, the body of each dancer has a different volume and her movement may differ due to a wide range of reasons. Thus, there would not be an a priori alignment between the boundary of a performed dance and the rules that dictate how that dance should be performed. The alignment can be evaluated only a posteriori, namely only once the dance is performed. This because the boundary of a specific dance is drawn only once the dance is performed. Hence, the identity criteria of a dance can be fixed only a posteriori. Therefore, the fiat boundary of a dance cannot depend a priori on human beings. Surely, however, it depends on human beings a posteriori, since it is carried out by a human being who tries to adhere to a script.

The same can be said for many spatial fiat boundaries. Let me put forward another example with a more familiar boundary, namely the geographical border between Italy and Austria on the Alps. It seems a suitable candidate for the kind of a priori dependence described at the outset of the paragraph, since it is a line that exists only on the maps and hence it should be fixed a priori. Nevertheless, even this border is fixed a posteriori. Part of this border lies on the Alpine watershed line and every year it flows at few meters, due to the global warming and shrinking glaciers. The border is tracked once every two hours in order to update its position on the maps.[7] Therefore, even what should be a paradigmatic case of a priori boundary, is instead an a posteriori one.

At the end of the day, what I claim is that a priori dependence is a too narrow constraint on general human dependence for the case of boundaries. Consider the following argument that should undermine the a priori dependence:

1. Boundaries of a dance are drawn a posteriori (A).
2. Fiat boundaries are drawn a priori (HDS).
3. Boundaries of a dance are not of the fiat sort (from 1 and 2).

The conclusion 3 is at odds with the definition of fiat and bona fide boundaries. The definition claims that a fiat boundary possibly does not correspond to any spatial discontinuity. In the case of a dance, there is a boundary and no spatial discontinuity. Thus, either there is no boundary, and that is contradictory with the assumption that a dance has a boundary, or it is bona fide, but

[7] See the project Italian Limes by the design and research studio Folder and the Italian Glaciological Committee <http://www.italianlimes.net/index.html>.

that contradicts the notion that a bona fide boundary must correspond to a discontinuity in space. If we accept that there is a boundary of a dance and that boundary is of the fiat sort, then we have to reject HDS.

Thus, the first point against HDS is that a human dependent object does not necessarily depend on human beings a priori.

Furthermore, there is a second reason why HDS is not a good characterization of human dependence. HDS states that since a dependent object depends on concepts, such dependence has to be deliberative, i.e. human beings should know what objects depend on them. That position has two corollaries:

1. Human beings always know what they necessitate;
2. Human beings choose what they necessitate.

The corollaries seem to fit our intuitions, nevertheless the study of boundary teaches us that the two corollaries contravene some other intuitions.[8]

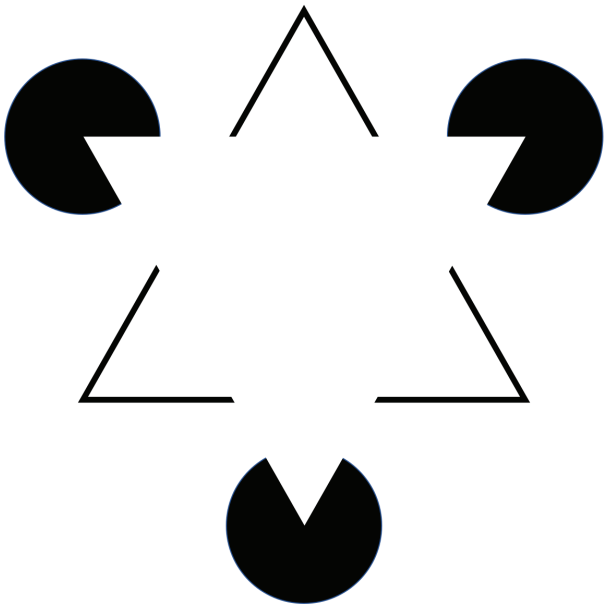
Consider the first corollary. It is easily provable: since every dependent object is the outcome of concept and a concept presupposes the knowledge of it (e.g., Searle 1995: 137-139), every dependent object is known. I added «always» since a definition has to be trivially known over every instant of time of which it is known.

Consider the boundary of the Mont Blanc and the valley around. The distinction between the two may be considered as human dependent since there is no spatially discontinuity in between. In this case it seems that the first corollary is false: not everyone is aware that the distinction between the two is human dependent. Clearly, a supporter of SHD can rebut, saying that there are some people that know that the boundary between Mont Blanc and the valley is human dependent. Nevertheless, it seems that even people aware of it lack the knowledge about where the boundary is. That is, such boundary is not in a precise region, rather it is vague, and it is unlikely that there will be a convention that fixes precisely where such boundary should be located. Even if such location was fixed by a convention, it would turn out to be a posteriori in respect of the boundary itself. Perhaps it would be fixed according to certain empirical evidences, or to pragmatic purposes, or by chance, and, thus, not on the basis of purely a priori facts. Thus, it cannot be said that people always know what they necessitate.

Consider now the second corollary. It says that people chose what they necessitate. For instance, when a national border is fixed, there is an agreement among politicians and, thus, politicians chose to stipulate an agreement.

[8] Also economic recessions, racism, and sexism show that not every human dependent object is conscious and voluntary, as Tuomela (2003: 161) and Thomasson (2018: 541) argue.

Nevertheless, such possibility of choice about dependence cannot be generalizable. Consider the famous Kanizsa Triangle. We see in the picture two triangles. We correctly see the boundary of one of the two since it has a black perimeter. But we illusorily see the boundary of the other one although it does not have a drawn perimeter. We know that this second perimeter is the product of our perceptual system and, thus, such boundary is not in space. Nonetheless, we cannot choose to move that boundary to a new region by an agreement or by another kind of act.



Furthermore, we cannot decide a priori anything about the nature of such boundary, since it is an effect of our way of perceiving the world. This is also true of a wide range of boundaries. Consider the boundary between the zone inhabited by Catholics and the one inhabited by Protestants in Belfast. That boundary is clearly fiat, since there is no discontinuity in space that marks it. And it is not chosen since it is the value of a function that calculates the progressive decrease in one population.[9]

The very problem of SHD is that it is too narrow and it cannot encompass all the ways in which boundaries depend on human beings.

[9] The example is inspired by Thomasson 2001: 152-153.

Thus, we need a new characterization of human dependence made just for boundary. I propose the following one:

HD: Necessarily, a boundary is human dependent iff necessarily, its location is fixed by a fiat act.

HD states that a given boundary depends upon human beings if its location, i.e. the region or the sum of the regions it occupies, is fixed by a fiat act. For instance, the location of the boundary of a mountain and the valley around it is fixed by our not so fine-grained sight. That is, we fix the boundary of the mountain where we perceive the difference between the mountain itself and its surroundings, although there is no such difference.

A further clarification is needed of the right-hand side of the biconditional. First, the reason for the modal strength. Second, what «fiat act» means.

The modal strength is needed here since it rules out the possibility that the location of a boundary is fixed by non-human factors. For instance, consider a table: the location of its surface is fixed not only by a human act, but even by a large variety of non-human events, such as the gravitational pull, the texture of the wood, and so on. Thus, the surface's location is not human dependent.

Let us now turn the notion of fiat act. That notion was already employed by Smith in his aforementioned works on fiat objects. Unfortunately, he did not explain what he meant. He said only that a fiat act is a human act. But manufacturing a table is also a human act, nevertheless it is clearly different from what we need in this context. We have to rule out every attempt to identify each act carried out by a human being with the fiat ones because in that case, the notion would collapse in a broader one. Furthermore, as noted at the very beginning of the paragraph, we are speaking about something that is not causal in space and some human acts are so.

A fiat act may be either a primitive notion that encompasses every act that is human and non- causal in space, or a complex notion liable to analysis.

I give up the first possibility, since even if it seems difficult to find a suitable definition of fiat act, I think there is at least a resemblance among the various kinds of acts it denotes.

4. *Fiat acts and non-heterogeneity*

As noted, a fiat act confers a special status on some stuff without any causal interaction with it. Moreover, I also argued that a purely a priori approach is too narrow and it does not include some cases, such as perceptions or actions. What is then to confer a special status on some stuff? The narrower problem

here is to understand what confers on a certain hunk of stuff the particular status of boundary. That is, what I called a fiat act.

Let us begin with the received view of such kinds of acts, proposed by Searle (1995). He stated the following rule:

«*x* counts as *y* in *c*»

This means that a certain object counts as a certain other object within a context. For instance, a certain region of space counts as the boundary between two nations within the context of an international treaty. As stressed above, Searle thinks that such status is conferred by that act because it is led by a collective intention. As I have already argued, such a claim rules out some important fiat acts, such as the individual ones and the non-deliberative ones. I want, then, a broader criterion that also includes those two kinds of act. I think the following one may be a good solution:

– Fiat Act: x is a fiat act iff (i) it is a human act; (ii) it is not causally efficacious in space; (iii) it is causally efficacious in a representation of space.

The clause (i) states that a fiat act is a human act. It rules out the possibility that certain animals' acts may be included here.[10] The clause (ii) stipulates that such an act does not have any causal efficacy in space; otherwise such a definition would also include acts such as manufacturing or other human acts that are rather causally efficacious in space. The last clause rules out from the list of possible acts the pure imaginative ones, such as creating a fictional character in a novel or proving a theorem.[11]

One can argue that a fictional character may be in a certain representation of space, e.g. Sherlock Holmes was located in the representation of Victorian London. Hence, arguably, such a definition of fiat act also covers the act of creating a novel. Yet I need to rule out such a possibility since I think that the representation of space in a novel and the representation of space as assumed in the definition – henceforth referred to as RS – own very different features. I suppose that those features are to be tracked down in the reasons why Rss come into being, in consistency with some non- human dependent laws, and in the components of representations. Indeed, an RS involves among its motivations some pragmatic aims as a matter of essence, e.g., a tourist map of London is helpful for moving with a greater ease in the city. Instead, a novel may be helpful for human beings,

[10] It is worth noting that I do not endorse the view that animals are not capable of fiat acts but just that such acts are beyond the scope of the definition.

[11] I am not assuming here any ontological thesis about the nature of mathematical entities. I just assume that such entities are located outside space and time.

e.g., by representing the right topological structure of a city, but it also may not be so. Clearly, an RS may fail to be helpful but nevertheless helpfulness is one of its essential dispositional features, that in turn may never be actualized.

Moreover, an RS has to follow not only its internal and human dependent rules. It also has to respect several human independent laws and some human independent facts. For instance, the perceptual representation of the boundary of the coast, i.e, the shoreline, has to follow the physical laws that govern the refraction of light. Whereas a shoreline within a novel may not follow such laws. Consider a map: the position of the shoreline is clearly posited by a fiat act, since there is not an object like that in space: a shoreline has not a precise position due to the movements of the sea, whereas its representation does. Moreover, a shoreline, as a matter of fact, it is not a spatial discontinuity. Nevertheless, its position is calculated within an interval and the media of that interval is the location drawn on the map. Thus, it is not in space but it follows some laws that are not human dependent.

Eventually, an RS has to include representations of bona fide reality among its components. My perceptual representation of the shoreline includes, beyond fiat boundaries, an amount of stuff, which is bona fide. The map of an island roughly represents the stuff of which the island is made and not only its fiat boundaries. Rather, a novel may clearly include among its components, even representations of bona fide reality, but it does not have to include them as a matter of essence. A novel set outside space and time may be very nice.

Hence, an RS has to have three features that differentiate it from a general representation:

– pragmatic reasons;
– consistency with human independent rules;
– representations of some bona fide components.

Let me sum up: a portion of bona fide stuff is appointed by the status of fiat boundary by means of a fiat act. To put it in other words: a fiat boundary is the outcome of a fiat act. Paraphrasing a well-known expression: fiat acts fictionally carve nature at its joints. Fictionally here means that these boundaries are featured by a representation. How? Let us consider a chunk of stuff and suppose we want to use it as a boundary for a certain portion of reality. We merely need to represent it through representation as a boundary, e.g., a map, a mental representation, and so on. It is exactly what we do every day when we mentally divide the room into two halves, or when we perceive the outermost surface of a wall, or when we draw a line on a map. All of them are fiat boundaries. And yet it seems that all these boundaries I just mentioned are somehow different.

5. *Taxonomies of fiat boundaries*

Fiat acts can very differ in their nature. A first taxonomy can be made based on which human act they are carried out:

- perceptual activity, e.g. perceiving the boundary of a figure against a ground;
- linguistic activity, e.g. grouping discrete things in a single thing, such as cows in a flock;
- conventional activity, e.g. drawing the border of a nation;
- conceptual activity, e.g. singling out a kiss as a continuous event by the concept "kiss";
- proprioceptional activity, i.e., detecting the position of the her own body in space.[12]

Each of the above acts has something in common, namely, they are project the boundaries onto space even though they are not in space, namely they do not correspond to a spatial discontinuity. Even if this taxonomy may turn out to be very explicative, I think there is at least another possible taxonomy based on the relationship between human beings and the fiat act itself without further specification and regardless the skill that is used as a proxy to make up boundaries. Let me put forward a tentative list of fiat acts that may give rise to fiat boundaries:

- Deliberative / Non-Deliberative (Smith 2001: 133-137; Smith and Varzi 2000: 405; Thomasson 2001: 152).
- A Priori / A Posteriori (Borghini 2014).[13]
- Individual / Collective (Smith 2001: 137-138; Smith and Varzi 2000: 402).
- Strong / Weak.

Note that the above criterion can be combined with the ones in the former list amounting to forty possible combinations, e.g., a deliberative conventional boundary. Moreover, they can be combined with each other and with the ones in the former list for composing a three-place relation, e.g., a deliberative individual conventional boundary.

In the last parts of the paper I shall explain how each criterion works and leave the reader free to classify her favorite boundaries according to the above criteria.

[12] The first four instances are already explored in Smith 2001.

[13] The first two were already mentioned in order to develop a better concept of human dependence in 2.

5.1. Deliberative and non-deliberative boundaries

The first alternative is to list boundaries in a taxonomy that consider the relations they have with the awareness of the human beings who produce them. Indeed, some boundaries are created by a deliberative fiat act, e.g. national borders, whereas there are some boundaries that do not depend on a deliberative act but, instead, are an outcome of a non-deliberative act. Consider the already mentioned illusory triangle by Kanizsa: the illusory boundary of the triangle is there since our perception represents it in such a region, even though that representation is not the outcome of a deliberative act, but rather is imposed by the structure of our perception itself. We do not choose where such a boundary lies but nevertheless the region in which it lies depends upon us. We cannot change the region it occupies, and, nevertheless, its position in space depends upon us.

There are other interesting cases of non-deliberative boundaries that are not related to perception. Consider again the case of the boundary between Catholics and Protestants in the city of Belfast in 2001. Such boundary depends upon human beings and so does its position in space. Nevertheless, such dependence is non-deliberative inasmuch as the position of human beings are not always the direct outcome of a deliberation on their part. In fact, the lines that divide the areas inhabited by Catholics from the areas inhabited by Protestants are clearly dependent upon a fiat act: the act of drawing lines on maps based on (i) certain technical competences; (ii) certain beliefs. And, thus, we necessitate where the line has to lie and nevertheless we do not necessitate it in a deliberate way. In other words, the line is there due to us but we cannot choose where the line has to be located.

We can then define the non-deliberative and deliberative boundaries according to the following definition:

> A fiat boundary is a deliberative boundary iff it depends upon a deliberative fiat act.

By "deliberative fiat act" I mean a fiat act that is explicitly chosen by a human being. It is surely difficult to distinguish deliberative and non- deliberative acts. Nevertheless, there are certain patent cases, such as perception, which is non-deliberative, whereas convention is deliberative since it needs an explicit or implicit agreement.

To sum up, a fiat boundary may be either deliberative, or non-deliberative based on the awareness of the human being that set it up.

5.2. Individual and collective boundaries

The second way to list boundaries is on the basis of how many people are committed to the fiat act that produces such boundaries. Consider the case of a purely mental division of a room in sections in prevision of a new design of the room itself. Someone who mentally divides the room traces some boundaries in space according to the future disposition of the furniture. In this case the boundaries are clearly individual in the relevant sense, since just one person is committed to them and just one person acts to create them.

Now consider the case of national borders. In this case, there are many people committed to both their creation and their existence: politicians, geographers, common people. Indeed, many people are needed in order for such boundaries to exist.

There are also cases that are difficult to classify within the dichotomy. Consider the boundaries projected by our sight into the world, say, the boundary of a mountain. Arguably, every human being projects the same boundary in the same region and, nevertheless, this act is not shared with others as in the case of national borders.

To solve the problem, I propose to classify that boundary on the basis of the agreement among people necessary for the existence of such boundary. In fact, arguably the boundary of a mountain needs just one person who perceives it, whereas the boundary of a nation needs at least two persons who agree about it. Then, we can classify such boundaries using the following definition that we can use alternatively as criteria for the taxonomy:

> x is an individual boundary iff there is only one person committed to it.
> x is a collective boundary iff there are more than one person committed to it.

In the first case, a boundary either is a private object made by some personal aim, e.g., the division of a room in two halves, or it stems from a commonly perceptual apparatus, such as sight. In the second case, a boundary yields from the so-called collective intentionality, and hence by the joint action of a group.

5.3. A priori and a posteriori boundaries

As stressed in in §2, not every boundary is drawn a priori, as concepts or also some conventions are. There are some boundaries that are fiat and nevertheless are drawn just after having experience of them.

Consider the example proposed by Borghini (2014) of cutting meat in the religious context of Hebraism. The *menakker*, i.e. the butcher expert in *kosher* tradition, has to cut the meat according to certain holy rules. Such cutting,

called *nikkur*, has to divide the parts of the beast that can be eaten from the forbidden ones. If the *menakker* does the wrong cut the whole piece of meat has to be discarded. His job consists in cutting the beast following certain rules, drawing with the knife the line that takes apart the allowed parts from the forbidden ones. Beyond the difficulty of the task, Borghini rightly claims that the outcome of the operation can be evaluated only once the cutting is done. That is, the boundary between the allowed parts and the forbidden ones arises only once the boundary itself is drawn by means of the knife. It means that such a boundary is not a priori since it is drawn during the experience. Consider by contrast the boundary of a cadastral parcel located at a new not yet build zone. Its boundary is fixed before any action and it is still the same after any action, for instance the construction of a building.

Whereas, the boundary between the right and the wrong, as in the case of nikkur, can be tracked down only once it is carried out.

Clearly, there are also often cases of mixed boundaries, as the case of the border between Austria and Italy in paragraph 2. Nevertheless, such a distinction can be useful employed for understanding what actions have their roots in experience and what actions have their roots in concepts when human beings draw and track down boundaries.

5.4. Strong and weak fiat boundaries

It might be argued that sometimes we should avoid a language committed to the existence of fiat boundaries, for the purposes of ontological or ideological parsimony. Someone wants to avoid a boundary commitment for political, religious or ethical reasons, for example who does not want to take a stance on the boundary's location between Palestine and Israel. Hence, we should come up with a fiat boundaryless paraphrase of natural language. For instance, instead of saying "the border between the Israel and Palestine" we can say "the region of space where the Israel meets Palestine".[14]

Sometimes a decommitted language is able to substitute each occurrence of 'fiat boundaries' as in the aforementioned case. However, boundaries such as

[14] Another possibility of wholes lacking boundaries is given by free-points topology, namely a topology that does not include points among the things of its domain and nevertheless includes wholes. It seems customary that points are necessary in order to have boundaries. That is because boundaries have one dimension less than the whole they bound. For instance, the boundary of a three-dimensional whole is a two-dimensional thing, i.e. surface. A boundary of a surface is a one-dimensional thing, i.e. a line. A boundary of a line is a zero-dimensional thing, i.e. a point. Hence, without points, there are no boundaries. Consider the standard model for free points topology, namely the one originally formulated by Whitehead (1920) and later formalized by Clarks (1981). According to them, in order to distinguish two different wholes, it is necessary that there is at least a two-dimensional empty region between them, as restated by Zimmerman 1996: 15.

a border are necessary in certain contexts of utterance, for instance when we say, "the border between the Netherlands and France stops the opportunity of buying soft drugs".

Consider again the border between the Netherlands and France. Such a line can obstruct the actions of a law. Indeed, only an administrative division can stop the effects of certain law. Clearly, a wall can be built where such a line is drawn or such a line can be drawn where there is a wall, but it is the line on a map that officially divides the two zones, i.e. it is the line that confers the status of two different zones.

As it turns out, what is disputed is not the existence of those boundaries or their features but instead their location. Some boundaries seem to be necessarily located in a region, whereas some others are just possibly located in a certain region.

In order to stress such a distinction, I propose a dichotomy between strong and weak boundaries where strong boundaries recall modal strength of necessity, whereas weak boundaries recall the modal strength of possibility. I allow the two classical readings of the modal operators: de dicto[15] and de re. Accordingly, two variants may be adopted:

De dicto reading:

– Necessity: it is necessary that there exists something which is a boundary and is in a certain location.
– Possibility: it is possible that that there exists something which is a boundary and is in a certain location.

De re reading:

– Necessity: there exists something which is a boundary and necessarily is in a certain location.
– Possibility: there exists something which is a boundary and possibly is in a certain location.

The modal strength and the de re/de dicto readings depend on the general context in which boundaries are employed. This means that within a context, a boundary we assume or speak about is either possible or necessary as we describe it either according to the rules of the context, or in order to lead to certain conclusion in a context. We have, then, two general kinds of fiat boundaries that are distinguished within a context just according to their modal strength in that context. In order to avoid further technicalities, I set here aside the difference between the two readings and I spell out a very easy

[15] The interpretation of fiat boundaries as an application of de dicto modality was already mentioned but not further developed by Varzi in some of his papers, see, *inter alia*, Varzi 2014: 16-31.

modal semantics for taking into account of the difference between strong and weak fiat boundaries.[16] Here the list of the ingredients:

– a modal structure (*V, W, I, f*), where *V* is the vocabulary, *W* the set of all possible worlds, *I* the set of individuals, and *f* the reference function that maps the words to the individual to which they refer.
  The vocabulary *V* is the following ordered tuple of words:
    ("Nation", "my sight", "the border-at-R", "limit of my visual fields")
  The worlds are listed in the following set:
    {*w1*, *w2*, *w3*}
  The set of individuals:
    {*N*, *S*, *B*, *L*}

– two boundary predicates: (i) weak fiat boundary and (ii) strong fiat boundary.
  In more detail:
  (i) A fiat boundary is a weak boundary of I iff it possibly confines I.
    That is, the boundary weakly confines I.
  (ii) A fiat boundary is a strong boundary of I iff it necessarily confines I.
    That is, the boundary strongly confines I.

Let me show how my model works. Consider the border of a nation. It could be very different if the things had been different, e.g., different international treaties, different legacies of wars, and so on. That is, the border actually located at a region *r*, could have been located at *r1*. Hence, since the border of a nation could be different at different worlds it is a weak boundary. So, within my model we have the Nation1 at *w1*, *w2*, *w3* given *f* and which has the border-at-*r B* at just some words and hence:

"The border-at-R weakly confines Nation1" at *w* given *f* = (for some world *v*) (The border-at-*r* confines Nation1) = "The border-at-*r* confines Nation1" is true at either *w1*, or *w2*, or *w3* given *f* = false.

However, the limits of my sight could not be different even if the things had been different, since I am a human being and human beings must have a certain visual field, or so I shall assume.[17] So, within my model we have my sight at *w1*, *w2*, *w3* given *f* and which have the limit of the visual field at all worlds. Hence:

[16] In what follows I employ the standard Kripke modal semantics as set up by Steinhhart 2009: 86-99.

[17] The limit of my visual field has always the same extension in spite of its content varies in regard on where my sight points.

"The limit of the visual field strongly confines my sight" at *w* given *f* = (for all worlds *v*) (The limit of the visual field confines my sight) = "The limit of the visual field confines my sight" is true at *w1*, *w2*, *w3* given *f* = true.

The model is intended to shows how and how much the location of a fiat boundary can count for defining an object. When it is strong it is necessarily needed for defining an object, whereas when it is weak its location can vary without altering the relevant object identity.

6. *Conclusion*

The paper showed how the metaphysical picture of our world depend for a large part on us. Many of the so-called natural joints are drawn and tracked down by our representations and our fiat acts. Many of the seemingly natural joints that surround us are fiat boundaries, since they depend upon us in an important and yet scarcely investigated way. They are not fixed only by our concepts, nor only by our perception. In spite of the variety of their origins, all of those boundaries share the same aim: to make the world easier to grasp by dividing it in discrete parcels.

The paper tried to investigate this variety and this common aim, while making some progress toward a precise classification of the acts that origin such boundaries.

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Focus

Pragmatism and the philosophy of expertise

Introduction
Pragmatism and the philosophy of expertise

Roberto Gronda

Scientific expertise is a most distinguishing feature of contemporary societies. There is likely not a single relevant problem affecting our communities that does not present some sort of entanglement between societal and scientific or technological components. The enormous complexity of public problems requires that all the best knowledge available be gathered and used in making decisions about which policy is preferable. Accordingly, the role of scientific experts comes to the fore, alongside the concerns that the extensive reliance on expertise may conflict with democratic principles and values.

Though in recent years the problem of scientific expertise has received considerable attention from sociologists, political scientists, and communication scholars, the philosophy of scientific expertise is still a relatively inchoate field of inquiry. The present issue aims to develop some conceptual tools for analyzing and clarifying the notion of scientific expertise, as well as for understanding the role of scientific experts within the processes of democratic deliberation and the relationships between scientists, scientific experts and citizens.

The four essays presented here differ in many respects, but they share a commitment to pragmatism as an approach to social epistemology and philosophy of science. Pragmatism is less a set of substantive ideas than a method for reformulating philosophical problems. The insistence on the centrality of the category of practice; the primacy of context over philosophical abstraction; the semantic function of the pragmatic maxim; the rejection of the fact-value distinction; the adoption of a transactional perspective on epistemological and ontological questions; these are the pillars of the pragmatist philosophical methodology.

The Focus originates from an international workshop on the philosophy of expertise held in Pisa on November 29, 2019, with participants coming from Europe and the US. The articles selected for this Focus were originally presented at the workshop, and then further elaborated in the light of the subsequent discussion. I hope that the essays here collected may help to contribute to the ongoing debate over the notion of scientific expertise, so as to establish pragmatist philosophy of scientific expertise as a distinctive and easily recognizable line of thought.

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Pragmatism and transactional realism

Pierluigi Barrotta

Abstract: Following the philosophy of John Dewey, language is a form of technology. In this essay I will illustrate this idea through what can be called "transactional realism": scientists do not perform the task of "copying" an existing reality, since they also transform it, and this, at least in some cases, brings about value issues into the language of science. I believe that transactional realism has significant consequences in the way public interests and values enter the subject-matter and procedures of scientific inquiry. Along with the rejection of the ideal of value-free science, transactional realism leads scientists to significantly change the perception of their work. Public interests and social values do not concern scientists only when the policy maker requests their assistance as experts, since they enter the very same ontology of science. This, as we will see, without foregoing realism.

Keywords: language as technology; realism; fact/value dualism; pragmatic maxim; biodiversity

1. *Introduction*

In this essay, I intend to illustrate two consequences of a well-known thesis which characterizes pragmatism, in particular the pragmatism of John Dewey. I refer to the thesis that language is a form of technology (cf. Hickman 1990). The first consequence of this thesis concerns the sense in which it is affirmed that theories and scientific language do not simply represent reality, since they also transform it. Hence a second consequence, typical of Deweyan pragmatism: the scientist, like any technologist, at least in some cases is involved in questions connected with social and moral values, in a way which turns out to be incompatible with the ideal of value-free science. The two consequences, which I intend not only to illustrate but also to defend, are closely intertwined and can therefore be summarized in a single statement: the scientist does not perform the task of "copying" an existing reality, but rather of transforming it, and this, at least in some cases, brings about value issues into the language of science.

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Although Dewey himself has had more than one uncertainty in this regard, the idea that language is a form of technology has nothing to do with the acceptance of instrumentalism or the reduction of all science to applied science (cf. Barrotta 2018: §§ 4.2 and 4.3). Rather it has to do with a specific form of realism, which I will call "transactional" following Sleeper (Sleeper 2001: 92).

I believe that transactional realism has significant consequences in the way public interests and values enter the subject-matter and procedures of scientific inquiry. Along with the rejection of the ideal of value-free science, transactional realism leads the scientist to significantly change the perception of their work. Public interests and social values do not concern scientists only when the policy maker requests their assistance as experts. Social interests and values enter the very same ontology of science. This, as we will see, without foregoing realism.

In the next section I will clarify in very general terms the characteristics of transactional realism. We will see in what sense, following this form of realism, language is not a mere representation of reality, in that it changes reality in the same way reality is changed by a technological tool. In the third section, this statement will be deepened and confirmed thanks to the analysis of the content of pragmatic maxim, both in Peirce's original version and in its extension operated by Dewey. In the fourth section, we will see how transactional realism leads to the thesis that, at least in some cases, scientists are involved in the value issues discussed in the public sphere. These issues concern them *qua* scientists not simply as experts hired by policy makers. We will do this thanks to the analysis of a scientific term: biodiversity. Some conclusions will summarize the guiding thread that has led us from transactional realism to pragmatic maxim and finally to the role of the scientist in relation to value choices. The guiding thread will be given precisely by the view of language as a particular form of technology.

2. *What transactional realism is*

Dewey has often focused on the relationship between knowledge and reality. It is certainly a subject of great importance within his philosophy. Unfortunately, it must be added that his claims on this issue are often obscure and difficult to understand. Admittedly, the following sentences have been specifically selected to illustrate the difficulties that the reader is faced with when dealing with Dewey's work. Dewey argues that "knowledge is reality making a particular and specific sort of change in itself" (Dewey 1908: 126). However, in an essay written around the same time, Dewey adds that he does not intend to deny the "undoubtedly axiomatic" truth according to which "the existence known does not change in being referred to by a proposition" (Dewey 1910:

140). Furthermore, in the same essay Dewey argues that this statement is compatible "with a change of meaning in the existence referred to, because it has become a subject of knowing. It is, moreover, consistent with alteration of the existence itself through knowing" (Dewey 1910: 140). A precise understanding of these statements will allow us to begin to outline the content and scope of transactional realism.

A first impression that could be drawn from these claims is that Dewey's philosophy is incompatible with realism. For realism in fact, knowledge does not change reality, but approximates it with ever greater rigour thanks to scientific progress. The well-known fact that Dewey studied Hegel thoroughly and was also influenced by him, would confirm the idea that Dewey adopted some form of idealism.[1]

Of course, the labels "idealism" and "realism" represent very broad concepts, which also designate very different positions within them. I myself will later show the substantial differences between "transactional realism" and "metaphysical realism". However, my purpose is much narrower here: to understand the sense in which Dewey must be considered a realist, albeit of a particular kind.

It is important to note that in order to understand Dewey's seemingly obscure statements it is better to start not from Hegel's philosophy, but from a scientific theory: Darwin's theory of the evolution of species (cf. Dewey 1898, Dewey 1909). The same terminology adopted by Dewey suggests this shift. In this context, Dewey does not intend to reject the subject/object dichotomy, but that between organism and environment. Certainly, the overcoming of any dichotomy is a constant feature of Deweyan philosophy, a feature which shows its proximity to Hegel. However, it is thanks to Darwin's influence that we will be able to understand why Dewey comes to defend a peculiar form of realism: transactional realism.

Dewey gives a very current interpretation of the theory of evolution. It should not be believed that the evolutionary process consists of a simple passive adaptation of the organism to the environment. Rather, it must be thought that through the evolutionary process both the environment and the organism evolve through mutual influences. We should therefore speak more correctly of a co-evolution. In *Reconstruction in Philosophy*, Dewey offers a simple example of co-evolution, that of a clam with the environment in which it lives:

[1] Certainly many of his contemporaries thought that Dewey's philosophy was a form of idealism. On this, see Hildebrand 2003, Chapter 3.

Wherever there is life, there is behavior, activity. In order that life may persist, this activity has to be both continuous and adapted to the environment. This adaptive adjustment, moreover, is not wholly passive; is not a mere matter of the moulding of the organism by the environment. Even a clam acts upon the environment and modifies it to some extent. It selects materials for food and for the shell that protects it. It does something to the environment as well as has something done to itself (Dewey 1920: 128).

We find here a very elementary example of a transactional relationship. The "organism-environment" system must be understood as a whole, in which each element can be understood starting from the other.[2] Dewey also warns against confusing simple interactions with transactional relationships. In physics, an example of interaction is given by two bodies that attract each other. In an interaction, the elements that make up the whole do not change their nature, while, as we have seen, in the "organism-environment" transactional relationship each element changes in the light of the changes of the other.[3]

A certainly more complex transaction takes place between knowledge and reality. Along the evolutionary process, a being appears capable of expressing their knowledge in linguistic form. With this, reality has been enriched with a new element with respect to the previous whole organism-environment. Thanks to the new reality, this organism is now able to communicate their knowledge through language, whereas previously their knowledge was incorporated into the organism itself in the form of non-reflective thinking. Through language, humankind now has another tool to solve problematic situations through reflective changes in the world around. From an evolutionary and naturalistic perspective, language is an instrument, albeit of a particular type, such as a hammer or a lever. Dewey is clear on this point. As he writes in *Experience and Nature*: "[t]he character of the object [designated by a scientific concept] is like that of an instrument, say a lever; it is an order of determination sequential changes terminating in a foreseen consequence" (Dewey 1925: 121).

[2] The term "transactional" was introduced very late by Dewey. In his work with Bentley, Dewey gives the following definition of "transaction": "Trans-action: where systems of description and naming are employed to deal with aspects and phases of action, without final attribution to 'elements' or other presumptively detachable or independent 'entities', 'essences', or 'realities', and without isolation of presumptively detachable 'relations' from such detachable' elements'" (cf. Dewey and Bentley 1949: 108). However, the concept of transactional is already clearly anticipated in other works of his. In his *Logic*, for instance Dewey writes: "[i]t will […] be supposed that organism and environment are 'given' as independent things and interaction is a third independent thing which finally intervenes. In fact, the distinction is a practical and temporal one" (Dewey 1938: 40).

[3] All of this is connected with the relationship between language and experience in Dewey's philosophy. On this I refer to Gronda 2020, especially Chapters 1 and 2. The book by Gronda is one of very few detailed works devoted to the philosophy of John Dewey in the light of contemporary philosophy of science.

With language, reality has therefore been enriched with a new element capable of changing itself. One of Dewey's seemingly obscure statements from which we started should therefore now be clear: "knowledge is reality making a particular and specific sort of change in itself". When we examine the connections between transactional realism and pragmatic maxim, the link between language and technology will become even more evident.

For the moment, consider the reality of a geographical concept, such as "American continent". The assimilation of language to technology leads to the overcoming of the dichotomy between the discovery (of a pre-existing object) and the creation (of a new object). Of course, not every distinction is lost, although there is a sense in which "creation" and "discovery" coexist both in the case of "American continent" and in the case of technological artifacts, as happens for example with genetically modified organisms. The central point is that discoveries require conceptualization. We do not discover a continent because we simply run into it, and the same happens for GMOs. The coexistence of "discovery" and "creation" is well illustrated by Dewey precisely through the example of the discovery of America:

> Discovery of America involved the insertion of the newly touched land in a map of the globe. This insertion, moreover, was not merely additive, but transformative of a prior picture of the world as to its surfaces and their arrangements. It may be replied that it was not the world which was changed but only the map. To which there is the obvious retort that after all the map is part of the world, not something outside it, and that its meaning and bearings are so important that a change in the map involves other and still more important objective changes (Dewey 1925: 125).

Of course, there are many differences between the discovery of America and the creation of a genetically modified organism. However, there are also close similarities that should not be overlooked in philosophical analysis. There is no doubt that America existed long before Columbus. However, it cannot be said that it was discovered by the first men who, presumably in the ice age, crossed the Bering land bridge. These men did not discover America simply because they did not have the necessary linguistic and conceptual tools. We can say that the discovery of America occurred only when a conceptual change occurred, exemplified for example by the creation of new maps. With the introduction of new maps (as well as the introduction of theoretical terms of scientific language, such as "electron"), an enrichment of reality has also occurred thanks to the emergence of new relationships in the transaction between the particular organism represented by man and the surrounding environment. This explains the other equally obscure sentences we started from. Dewey reaffirms the "undoubtedly axiomatic" truth that "the existence known does not change

in being referred to by a proposition" but at the same time, stresses that there is "a change of meaning in the existence referred to, because it has become a subject of knowing". There is certainly a sense in which America existed before Columbus, just like the electron existed before J. J. Thomson, while GMOs did not exist before S. N. Cohen. However, we must also say that reality itself has changed with the discovery of America, the electron and GMOs, since it has been enriched with new meanings and new tools (for example, new maps in the case of the discovery of America). Finally, as Dewey points out, there is another way in which research involves an "alteration of existence itself through knowing". Indeed, with these discoveries, the road has undoubtedly been opened up to profound changes in existence, for example, through trade, in the case of America, or with the increase in agricultural productivity, in the case of GMOs.

Dewey was certainly a realist, albeit of a particular kind. Following Sleeper, we can define his realism as "transactional realism", since knowledge is a form of transaction that takes place between the organism and the environment (Sleeper 2001: 92).

Transactional realism leads us to a peculiar form of realism regarding the objects of science. What has been said so far gives us a fairly broad idea of transactional realism. To examine more precisely in which sense we can affirm the real existence, for example, of electrons or H_20, we must now clarify further what has been stated so far through the characteristics of pragmatic maxim, which will lead us again to consider the role of language as technology.

3. *Pragmatic maxim and transactional realism*

Pragmatic maxim is introduced by Peirce in his well-known essay "How to Make Our Ideas Clear". Also due to an unfortunate example, the formulation chosen by Pierce easily leads the reader to misunderstand its scope and reduce it to adherence to an excessively radical empiricism.[4] It is therefore more ap-

[4] The previous statement of the maxim is as follows: "[c]onsider what effects, that might conceivably have practical bearings, we conceive the object of our conception to have. Then, our conception of these effects is the whole of our conception of the object" (Peirce 1878: 5.402, 258). The unfortunate example is that of a diamond never touched before its destruction. Peirce sets out to clarify the meaning of the concept of hardness and claims that it is meaningless to ask the question of whether a diamond burnt before it has ever been touched was soft or hard. This decidedly counterintuitive conclusion is induced precisely by the pragmatic maxim, which would have the implication that "[t]here is absolutely no difference between a hard thing and a soft thing so long as they have not brought to the test" (Peirce 1878: 5.403, 260). Note that in the formulation I have chosen the emphasis is shifted from observational effects to general habits of conduct. In other words, the maxim applies to research procedures, the purpose of which is the problem solving. Beliefs relieve us of doubt by providing rational habits. This certainly requires experimental investigation, but this statement is very different from asserting that our beliefs must be entirely reducible to observational effects.

propriate to refer to a second version of the maxim, which is the following: "[t]he entire intellectual purport of any symbol consists in the total of all general modes of rational conduct which, conditionally upon all the possible different circumstances and desires, would ensue upon the acceptance of the symbol" (Peirce 1905a: 5.438, 293). From the statement of the maxim, it immediately emerges that the problem that Peirce intends to address concerns the meaning of the symbols or concepts that occur in language, particularly in scientific language. After having clarified how pragmatic maxim intends to perform this task, we will see why and how it is also connected to Dewey's transactional realism.

Peirce intended to introduce the typical rigour of the experimental scientist into philosophy. As he wrote, the experimental scientist will always try to clarify the practical consequences that follow from an operation performed in the laboratory: "when you have found […] the typical experimentalist" – Pierce notes – "you will find that whatever assertion you make to him, he will either understand as meaning that if a given prescription for an experiment ever can be and ever is carried out in act, an experience of a given description will result, or else he will see no sense at all in what you say" (Peirce 1905b: 5.411, 272-273). Peirce hoped that the experimentalist's approach in philosophy would put an end to unnecessary metaphysical disputes, a hope which is certainly not new in the history of philosophy.

It is not immediately clear how the maxim is able to introduce the rigour of the experimentalist in fixing the meaning of concepts. For example, how does the maxim help us fix the meaning of "water" or "H_2O"? If we even very carefully read the formulation of the pragmatic maxim offered by Peirce, we do not find precise explanations in this regard. However, it is not difficult to find precise indications in Peirce's works. In the first of his "Harvard Lectures on Pragmatisms", Peirce expresses himself in this way:

> Pragmatism is the principle that every theoretical judgment expressible in a sentence in the indicative mood is a confused form of thought whose only meaning, if it has any, lies in its tendency to enforce a corresponding practical maxim expressible as a conditional sentence having its apodosis in the imperative mood. (Pierce 1903a: 5.18, 15).

Following Peirce's indications, the meaning of the concept of water should therefore be clarified through a series of conditional statements such as: "if you put water in the refrigerator (protasis) then you must expect that it will freeze when it reaches the temperature of 0 degrees Celsius (apodosis) "; or "if you put water in a container placed over the fire (protasis) then you must expect it to boil when it reaches the temperature of 100 degrees Celsius (apodosis)"; or again "if you drop droplets of water on a red-hot iron (protasis)

then you must expect that hydrogen gas will be released (apodosis)", and so on. In summary, the pragmatic maxim clarifies the meaning of the concepts thanks to conditionals with the following form: if you perform an action of a certain type *x* on an object *y* then you will have to expect a certain type *z* of observable consequences. Furthermore (and this is something that has a certain importance to fully understand pragmatism), it should be noted that all this could easily translate into rules for action, when we aim to achieve certain objectives. For example, to continue with the concept of "water", a rule for the action would be the following: "if you want to produce hydrogen from water, then drop droplets of water on an incandescent iron". *The rules of action, in view of specific objectives, and the meaning of the concepts represent the two sides of the same coin.*

Thus, this is the connection we were looking for. When we want to clarify the meaning of a concept (for example, water), we have to translate the statement in the indicative (water is…) into statements in their conditional form, where the antecedent (protasis) is given by an action on the object and the consequent (apodosis) is given by the observational effects that are the consequences of that action on the object. If the same action brings about the same consequences then we face the same concept and any further consideration becomes meaningless jargon, as happens, according to Peirce, in the case of theological controversies on the concepts of wine and bread connected to the dogma of transubstantiation (cf. Peirce 1878: 5.401, 257-258). Therefore, for Peirce, the practical consequences that pragmatists often debate are observational consequences, which follow from an experimental operation. It is in this sense that for Peirce pragmatism represents the philosophical attitude that characterizes laboratory activities.

Although it may initially appear to be a digression from the way the meaning of concepts is fixed, it is worth investigating a point already mentioned previously: Peirce's experimentalist philosophy is far from the radical empiricism subsequently supported by neopositivists.

The way pragmatic maxim fixes the meaning of the concepts is certainly connected with the experimental attitude, but this statement is very different from asserting that our beliefs must be entirely reducible to observable effects. On closer inspection, Peirce's break with empiricism is much more radical than it appears at first glance. The differences between pragmatists and empiricists are numerous, starting with the different conception they have of experience and observational statements.[5] Here, it is useful to examine a specific differ-

[5] Unlike empiricists, Peirce stresses that even the simplest observational statements are not immediately given, since they themselves are the conclusion of inferences. See, for example, Peirce 1903b.

ence between Peirce and the empiricists: the different way in which the laws of nature are conceived. Thanks to this difference, we will in fact be able to return to the role of conditionals in clarifying the content of pragmatic maxim.

Consider the following two statements, which usually exemplify the difference between genuine laws of nature and accidental regularities: 1) "All heated metals expand" and 2) "All the coins in my wallet are 20 cents". Evidently only the first is a law of nature, although both have the same logical form. One way to conceptually clarify the difference consists in reformulating them into conditional statements. As will be remembered, Peirce himself suggests clarifying the functioning of the pragmatic maxim by translating the sentences from the indicative mood to conditionals with the apodosis in the imperative mood. In the first case, there are no problems. The translation would give a result of this type: "If this metal is heated then you must expect its expansion". The "must" we find in the apodosis is justified by the fact that we find here a connection between an experimental possibility and the necessity for a certain result. The laws of nature therefore represent *possible necessities* in that from the possibility of the antecedent of the conditional happening the occurrence of the consequent of the conditional necessarily follows. In the second case, however, I certainly cannot say that if a coin were put in my wallet then it would necessarily be a 20 cents coin. Once put into my wallet, a 50cent coin would not turn into a 20cent coin. The difference consists in the fact that both propositions express an empirical regularity, but only the first is a law stating a necessity of nature, while the second represents, in fact, only an accidental regularity. With their attempt to reduce all laws to empirical regularities, empiricists have always had some difficulty in distinguishing genuine laws of nature from accidental regularities. Here there is no need to see if and how empiricists are able to solve the difficulty. Rather, it is important to understand that Peirce, unlike empiricists, does not defend at all a regularistic conception of the laws of nature. This would in fact be incompatible with important aspects of his philosophy. Another passage from Peirce should be mentioned, then we will comment on it briefly:

> Pragmaticism makes the ultimate intellectual purport of what you please to consist in conceived conditional resolutions, or their substance; and therefore, the conditional propositions, with their hypothetical antecedents, in which such resolutions consist, being of the ultimate nature of meaning, must be capable of being true, that is, of expressing whatever there be which is such as the proposition expresses, independently of being thought to be so in any judgment, or being represented to be so in any other symbol of any man or men. But that amount to saying that possibility is sometimes of a real kind. (Peirce 1905a: 5.453, 306-307).

In this passage, Peirce affirms something important. He argues that laws are possible necessities that belong to nature and upholding the reality of laws is tantamount to stating that laws are not simply synthetic ways of expressing regularities between the occurrence of the antecedent and the occurrence of the consequent of the conditional. In other words, with regard to the laws of nature, Peirce adopts a realism that is incompatible with empiricism.

We therefore confront the problem of realism again. As is well known, there are many and important differences between Peirce and Dewey, from their conception of truth as an end of inquiry to the type of realism defended by them. However, here I would rather emphasize some elements of continuity, which are once again given by the pragmatic maxim.

In his essay, "What Pragmatism Means by 'Practical'", what Dewey adds to Peirce's analysis of the pragmatic maxim is a relevant distinction for our purposes. In addition to clarifying the potential confusions of James' pragmatism, Dewey distinguishes between the meaning of an object and the meaning of an idea. As for the former, Dewey writes that "[w]hen […] it is a question of an object, 'meaning' means its conceptual content or connotation, and 'practical' means the future responses which an object requires of us or commits us to" (Dewey 1916: 379). If we keep in mind the previous reconstruction of the pragmatic maxim it should be clear what Dewey means. Retrospectively, "If … then" statements explain the properties of a given object (the connotation). If someone asked us what the term "water" means, we could explain its conceptual content by saying, for example, that if it is drunk then it quenches thirst; if it is put on a fire then it boils at one hundred degrees at sea level; and so on. Furthermore, from the point of view of future answers, pragmatic maxim tells us what to expect when we act on an object. Following our example, what we should expect if we drink water or put it on the fire.

As for the meaning of ideas, Dewey expresses himself in this way: "what an idea as idea means, is precisely that an object is *not* given. […] an idea is a draft drawn upon existing things, an intention to act so as to arrange them in a certain way. From which it follows that if the draft is honored, if existences, following upon the actions, rearrange or readjust themselves in the way the idea intends, the idea is true" (Dewey 1916: 379). Consider the term H_2O. In the eighteenth century, the term was not believed to have a meaning, since water was thought to be an element, not a compound of two gases or "airs" (as was said at the time). H_2O was introduced as a concept for solving some problems. Indeed, through operations on H_2O it was possible to correctly predict a series of consequences. For example, Lavoisier made a series of experiments in which he succeeded in producing hydrogen by dropping small drops of water on a red-hot iron bar; a result incompatible with the idea that water was

a simple element. Furthermore, this has made it possible to obtain hydrogen on a large scale through a new system of production rules. The main point is that we are authorized to say that H_2O exists (that is, it has an authentic denotation) because we can act on it through a series of operations that have the expected result. In this case, following Dewey, pragmatic maxim clarifies how the meaning of an idea is established thanks to the inquiry that successfully "reorganizes" the experience.

The relationships between the meaning of an object and the meaning of an idea should be clear. When the existence of an object is taken for granted, at the end of a successful inquiry, pragmatic maxim explains the properties of the object (its connotation). When new areas of research are explored, however, an idea has the task of reorganizing the experience. If it is successful, the idea corresponds to a genuine referent (its denotation). The same analysis could be applied to understand the relevance of the pragmatic maxim regarding far more complex entities than "water", such as atoms and electrons. Here I would like to emphasize that following pragmatism a conceptual content can never be separated from the practical activity that derives from it. In some contexts, assertion such as "Water boils at 100 degrees" or "Water is a compound of oxygen and hydrogen" are a way to retrospectively analyze the properties of water after inquiry has been successful in organizing the experience; in other contexts, the same statement serves to guide us in anticipating the future when we perform operations on an object that we recognize as water; in still others, there are ideas or conjectures "chasing a denotation", in the sense that we try to understand if they have a correspondence with reality, for example when the composed nature of water was not known. In all cases, the concepts are tools that are used or have been used to organize the experience, in the same way in which when a light placed on a gas detector turns on means that there is gas leak and helps us avoid lighting a match. As Dewey writes in *Experience and Nature*, language "is no different in kind from the use of natural materials and energies, say fire and tools, to refine, reorder, and shape other natural materials, say ore. In both cases, there are matters which as they stand are unsatisfactory and there are also adequate agencies for dealing with them and connecting them" (Dewey 1925: 61).

To sum up, Dewey's realism opposes the idea that the objectivity of scientific language is guaranteed by the fact that it faithfully represents or "copies" reality. Instead, for Dewey's realism we should consider language as a form of technology, since language and knowledge allow us to act on reality and are themselves part of reality. As has been seen previously, this is the fundamental idea of transactional realism.

4. *Value-laden concepts in the light of transactional realism*

Today, the thesis that in the meaning of some concepts, including scientific concepts, values and facts are closely intertwined, has increasingly become plausible. The entanglement between facts and values involves many epistemological and ethical problems, starting with the rejection of the ideal of value-free science; an ideal still widely accepted today by the vast majority of philosophers of science and scientists.[6]

Pragmatism wholeheartedly accepts the fact/value entanglement. In particular, transactional realism shows the way the moral sphere is in some contexts able to enter scientific language as its constitutive component. If we follow the idea of knowledge as a copy of reality, morality has the sole purpose of examining the possible uses of knowledge. Transactional realism opens up a different perspective, which is able to solve some philosophical problems regarding the nature of scientific language and is also able to make us better understand the role of scientists when they offer their advice as experts in view of the resolution of socially relevant problems.

Here I will confine myself to offering a specific example, which in addition to further illustrating what has been said so far, will also show us how transactional realism is able to clarify the entanglement between facts and values. I believe that this is a considerable advantage of the kind of realism proposed by pragmatism, since transactional realism also proves to be insightful in understanding some areas of scientific research. The example we will focus on is given by the term "biodiversity".

The term "biodiversity" has a relatively recent origin. It was coined in 1986, when the conference "The National Forum of BioDiversity" was held in Washington, the proceedings of which were edited by Edward O. Wilson. One of the aims of the conference was to precisely define the meaning of "biodiversity" which, once operationalized, should have been able to offer objective and real measurements of actual biological diversity.

The references to the 1986 conference and to Wilson, surely one of the pioneers of conservation biology, immediately introduce us to the problem the first researchers who dealt with biodiversity had to face; a problem that is not only scientific, but also epistemological: how should we measure biological diversity? Without its objective measurement, satisfactory answers could not be given to the needs of environmental conservation. For example, the greater or lesser biological diversity of one area compared to another could not be objectively displayed. More importantly, one could not objectively answer the

[6] See Marchetti and Marchetti 2016 for an overview.

question of whether a certain policy increases or decreases biological diversity. In his book on biological diversity, Wilson poses the problem in very precise terms: "[s]ince antiquity biologists have felt a compelling need to posit an atomic unit by which diversity can be broken apart, then described, measured, and reassembled. […] Not to have a natural unit would be to abandon a large part of biology into free fall" (Wilson 2001: 35-36).

Despite Wilson's concerns, conservation biologists quickly realized that they did *not* have the atomic unit that would have been needed to measure biodiversity. Today, this is a fact that is difficult to contest. Gaston and Spicer expressed it from the first pages of their introduction to conservation biology: "[a]s a result of the variety of elements of biodiversity, and of differences between them, there is no single all-embracing measure of biodiversity – nor will there ever be one! This means that it is impossible to state categorically what the biodiversity of an area is or of a group of organisms. Instead, only measures of certain components can be obtained, and even then, such measures are only appropriate for restricted purposes" (Galton and Spicer 2004: 9).

Gaston and Spicer's scepticism is justified by a simple consideration, which was obviously also known to Wilson when he wrote the above-mentioned book. There are at least three basic biological concepts that can be used to measure biodiversity: species, genetic characteristics and ecosystems (cf. Sarkar 2005). If they do not have good and objective reasons for choosing one, we will have contradictory measurements. For example, we can say that environment *A* has a greater biodiversity than environment *B* because it has a greater number of species. Or we could say that it is *B* that has a greater biodiversity than *A* because the latter is populated by groups of species that are mutually similar from a genetic point of view.

This well-known situation has not discouraged biologists. Many, starting with Wilson in his book above, believe that choosing the number of species appears to be the most natural metric for gauging biodiversity. In practice, there are many biologists who adopt this vision, although they are obviously well aware of the potential semantic plurality of the concept. However, the situation becomes even more complicated if we consider that in biology there are also different concepts of "species" that offer different and incompatible metrics. For example, we have a biological definition and a phylogenetic definition of species. Both have operational significance but lead to very different measurements. In fact, it has been ascertained that the definition of species based on phylogenetic history greatly overestimates the degree of biodiversity compared to the biological definition of species (cf. Agapow el al. 2004).

The situation has brought about some embarrassment among biologists. As we said earlier, it is quite common to find essays in conservation biology that

begin with warning that there is no single metric to measure biodiversity, but then they continue as if there was only one, usually that offered by the species in its biological meaning (cf. Gaston 1996). The moral we have to draw from the situation in conservation biology is that, despite the evolution of the discipline pushing towards a pluralistic conception of the meaning of "biodiversity", conservation biologists find it difficult to accept it coherently, in all probability because they lack an epistemology that is adequate for the problems posed by pluralism.

Transactional realism and pragmatic maxim offer a solution to the embarrassment caused by the plurality of biodiversity measurements. The solution consists in considering the concept of biodiversity as a technological tool in view of the solution of the environmental problems we are experiencing (cf. Barrotta and Gronda 2020).

Through the pragmatic maxim, we have previously seen that the denotation of a concept is fixed at the end of scientific inquiry. Faced with problems, which are sometimes exclusively theoretical and sometimes of a social or practical nature, scientific investigation constitutes the most suitable concepts for solving them. This means that the object which we refer to is not something that is given to us regardless of the language and conceptual structures of the inquiry. The object is not simply discovered by the inquiry. Rather it is linguistically constituted through the inquiry in order to solve purely theoretical or social problems. As has been repeatedly stressed, language is a tool, like a hammer or a lever, which serves to solve the doubtful situations the scientific community has to face. This, let us recall, is the basic idea of transactional realism. Scientific concepts do not "copy" or represent a predetermined reality, but they constitute and transform it in the light of the problems and objectives we set ourselves.

Once more, this does not mean abandoning the objectivity of scientific inquiry. As common sense suggests, we can continue to affirm that an object really exists only when research is empirically successful. Rather, transactional realism leads us to conceive objectivity in such a way that it is more connected with scientific inquiry. What is rejected is not the realism of common sense, which is strongly entrenched in the scientific mentality, but metaphysical realism, which affirms the existence of a reality that scientific language should simply "copy".

The concept of biodiversity exemplifies, I believe very accurately, this philosophical view, which is in itself rather abstract. I also believe that transactional realism allows conservation biologists to overcome the embarrassment caused to them by pluralism. The plurality of biological diversity concepts is in fact what we should expect if transactional realism is followed.

Biological reality is extremely rich. As Ernst Mayr observed, "[t]he most impressive aspect of the living world is its diversity. No two individuals in sexually reproducing populations are the same, nor are any two populations, species, or higher taxa. Wherever one looks in nature, one finds uniqueness" (Mayr 1997: 124). Consequently, conservation biologists have the task of *choosing* which aspect of reality is appropriate to select with respect to the problems we have to face and the objectives we aim to achieve. It is in this context that social values come into play and, with them, the inevitable plurality of biodiversity concepts. Only after we have chosen which aspect of biological reality we wish to preserve or increase in the light of our values can we adequately establish the meaning of "biodiversity". From the perspective of transactional realism, the meaning of the concept appears to be a technological tool in the sense that it tells us what results we will be able to achieve when we perform a set of operations.

Thus, there is no biological "atomic unity" (as Wilson wanted). Nor do we need this unity to prevent scientific measurements from becoming arbitrary or conventional to such an extent that we risk "abandon[ing] a large part of biology into free fall". When conservation biologists claim that biological diversity is increasing or decreasing, they are not only representing facts, but also evaluating them. The two activities (description and evaluation) are closely intertwined given the plurality of biodiversity concepts in principle usable by conservation biologists.

Research in conservation biology must certainly face complex problems. It is in fact biological reality itself that is complex, as we have previously observed following Mayr. Furthermore, not all biodiversity concepts can easily be operationalized. What I would like to point out here is that many of the epistemological puzzles would be solved if conservation biologists saw themselves as technologists. Not only when their expert advice is requested in solving conservation biology problems in certain areas of public concern, but also in the way they should conceive their scientific inquiry, that is when they have to develop adequate concepts and metrics to gauge biological diversity.

5. *Conclusions*

The realism defended by pragmatism, and in particular by Dewey's pragmatism, is certainly a peculiar kind of realism. Scientific inquiry does not have the task of representing or "copying" reality, but that of orienting ourselves successfully by examining the consequences of our actions. In a sense that I hope I have clarified, scientific language should be considered as a technological tool. Furthermore, I am confident that I have made it clear that

this does not in any way mean abandoning the realism of common sense. Rather, it means abandoning metaphysical realism and adhering to a kind of realism that we can define as "transactional" in order to emphasize how scientific language and reality mutually change themselves along the inquiry process. There is a sense in which the objects to which science refers are not pre-existing to scientific inquiry, since they are constituted by research that is successful in solving the problems that the scientist must solve. Sometimes these problems are practical and social in nature; and therefore, it is not surprising that value issues also concern scientists *qua* scientists, not simply when scientists are asked for their advice as experts. Transactional realism has undoubtedly the advantage of making us understand the reason why, in some research contexts we find the entanglement between facts and values in the concepts used by science. We made this point clear through a case of no less importance: the notion of "biodiversity".

For many, the inevitability in some contexts of the entanglement of facts and values in scientific language appears to be mysterious or even outrageous, because it means giving up the ideal of value-free science. On the contrary, the entanglement of facts and values is within pragmatism something that we should expect for the simple reason that the consequences of our actions sometimes have moral and social consequences. Language is a technology, albeit of a particular type, and, like all technologies, sometimes has morally relevant implications. From a metaphysical point of view, transactional realism is certainly less ambitious than realism which affirms the existence of entities that in principle could be correctly represented by language, independently of our actions. However, transactional realism appears to be a form of realism epistemologically better founded, in the specific sense that makes us better understand the very complex and radically different processes of scientific inquiry.

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Language, objectivity, and public inquiry: a pragmatist theory of expertise

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Abstract: Scientific objectivity is a highly complex notion. As a consequence of its intrinsic complexity, the notion is usually conceived of as lacking a core of essential properties. A pluralist account has thus been put forth, which acknowledges a variety of senses in which that notion can be understood. The aim of this paper is to add a further sense to the list. By shifting the attention from a peer-to-peer scenario to an expert-layperson framework, I argue for the notion of "expressive objectivity" as a key to clarifying what public objectivity is. Public objectivity is the result of a well-conducted public inquiry. Unlike the scientific inquiry, which is carried out by scientists, the public inquiry is conducted by an enlarged community of inquirers, encompassing scientific experts and citizens. Since citizens do not have any scientific training, I endorse the view that if an agreement is to be reached, it can only be reached at the linguistic level. The thesis that I develop in the article is that public objectivity can be achieved if and only if the public language in which the inquiry is conducted is rich enough to make it possible for each member of the community of inquirers to formulate their viewpoint and to express their epistemic values.

Keywords: scientific objectivity; public objectivity; scientific expertise; language; public inquiry; community of inquirers

Much has been written about scientific objectivity in the last few years – and from many different perspectives (Gaukroger 2012, Daston and Galison 2007). It should come as no surprise: the notion of objectivity functions as a sort of litmus test for how science and scientific activity are understood, and for how their role is conceptualized in relation to those of other social institutions.

Objectivity is a contested notion, which has gone through significant changes (Axtell 2016). Traditionally, objectivity was paired with neutrality and value-freedom: it was believed that values and interests distort facts, which only are objective. To be objective meant, therefore, to be neutral between alternative ethical and political views or between conflicting interests.

In recent times, however, the standard view has been questioned, and attention has been drawn to the fact that moral values seem necessary for sci-

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entific activity. The argument based on inductive risk – according to which moral values influence the standards of evidence by which we accept or reject a scientific hypothesis – is the most serious challenge to the value-free view of science (Douglas 2009, Elliot and Richards 2017). In the light of this, it has been argued on many sides that taking a neutral stance to non-cognitive values does not count as a necessary or sufficient condition for objectivity (Elliot 2017, Haskell 1998).

As a pragmatist, I side with such a value-bound approach (Putnam 2002). I have shown elsewhere that the entanglement of facts and values is even more radical and far-reaching than has usually been acknowledged (Barrotta and Gronda 2020). The purpose of this article is to take a step further and complicate the account of scientific objectivity by adding a different use of such notion to the stock of those already available.

Scientific objectivity is usually set in a peer-to-peer framework: so, for instance, a statement or a method is said to be objective if and only if it is reliable, if and only if it is replicable, and so on. The implicit assumption is that, if other scientists decided to investigate the same subject-matter or apply the same method, they would get the same result. Objectivity acts, then, as an epistemic warrant: it says that it is rational to rely on something that is considered objective.

To the extent that laypeople trust scientists, scientific objectivity can be broadened to an expert-layperson scenario. But what about a different kind of framework, in which citizens do not simply defer to scientific experts, but rather cooperate with one another, in solving a public problem? What kind of objectivity is at stake in such a community of inquirers (Barrotta 2018)?

This article attempts to answer those questions. It aims to enrich our theoretical apparatus by articulating the meaning of the notion of scientific objectivity. As such, it is less of an effort of conceptual analysis than one of conceptual engineering (Cappelen 2018). The approach is normative, and the conditions in which the epistemic transactions between citizens and scientific experts take place are overtly idealized. Accordingly, I will not take into account the disruptive effects that the experts' violations of moral or deontological standards, as well as the citizens' sceptical resistance to science, have on social enquiry.

This article is made up of four sections. In the first section, after outlining the main features of the pragmatist philosophy of science, I introduce the difference between scientific inquiry and public inquiry, and I provide a clarification of their differences in terms of the different problems that originate inquiry. In the second section, I lay out and discuss the standard account of scientific objectivity as formulated by Heather Douglas in her highly influential *The Irreducible Complexity of Objectivity*. In the third section, I briefly

sketch Montuschi's analysis of the notion of practical objectivity, after which my notion of *public* objectivity is modelled, and I review which of the different senses of the notion of scientific objectivity, as identified by Douglas, apply to public objectivity too. Finally, in the fourth section, I argue for a further form of objectivity – which I call "expressive objectivity" – and then I show why it is characteristic of public objectivity and which explanatory role it can play.

1. *Scientific and public inquiry*

In this section, I am going to sketch what a pragmatist philosophy of science looks like – or, at least, what kind of pragmatist philosophy of science I have in mind. That will provide the framework for further analysis.

In my view, the pragmatist philosophy of science is grounded on the very simple idea that scientific investigation is a mode of practical activity, which is characterized by a high degree of control over its tools and concepts. Unlike commonsense inquiries, which rely on fuzzy tools and concepts, scientific inquiries put great effort into defining the notions by which experiments are constructed and carried out. The more controlled the courses of inquiry, the more likely they are to be successful.

Two ideas are particularly relevant in this context. First of all, the notion of empirical success is pivotal to the pragmatist approach. The pragmatists' favourite motto – "by their fruits ye shall know them" – points precisely in the direction of giving pride of place to the successful results of controlled inquiries. Unfortunately, that of empirical success is also widely acknowledged as a somehow elusive notion. As Solomon convincingly argued, empirical success – as opposed to theoretical success – can be framed in different ways: it can be "observational, predictive, retrodictive, experimental, explanatory or technological" (Solomon 2001: 21). The point is that the possibility of unifying all those aspects into one single theory is far from obvious.

Solomon highlights two measures of empirical success, namely *robustness* and *significance*. Empirical success is robust when it can be reliably replicated in different contexts. This implies that empirical success is, at least partially, separable from theoretical disputes: while it is a fact that we might not know why something happens, we can nonetheless ascertain whether or not that something happens. Indeed, the possibility of separating theoretical from empirical success lies at the core of many scientific approaches. For instance, our current investigations are not concerned with discovering the reasons why Tocilizumab, an immunosuppressive drug for the treatment of rheumatoid arthritis, is effective or ineffective against Covid-19; they are instead aimed at discovering whether that drug is effective and safe for the purpose. And we

find such an approach reasonable, because we believe that the latter goal can be achieved without achieving the former.

At the same time, however, empirical success is significant when it is "mostly attributable to the theory, rather than to prior knowledge shaping the application of the theory" (Solomon 2001: 30). The rationale behind this assumption is that we want empirical success to provide some warrant for believing the theory. If empirical success happened by chance, or because of our prior knowledge of the phenomenon, then the theory under consideration could not be held accountable for the empirical success that we are interested in. Accordingly, there would be no good reasons to accept it.

I think that Solomon's account of empirical success shares some relevant insights with the pragmatist view of inquiry. As I understand it, her insistence on the successful coordination between the world and scientists, *plus* their instruments and their theories, as a definition of empirical success, is an attempt to frame the whole issue in practical terms (Solomon 2001: 27-28). But, insofar as that definition may look circular, it is not so, since the successful coordination to which Solomon refers in the *definiens* is a mode of practical activity. In this sense, her views are continuous with the pragmatists' ones. In a nutshell, I understand her as saying that empirical success has to do with the objective responses of the world to our activities, which are guided and controlled by the conceptual and technical apparatus that we decide to apply.

Pragmatists formulate the same insight in slightly different terms – namely, in terms of inquiry. Within a Deweyan framework, the notion of empirical success is reconnected to that of a successful reconstruction of a problematic situation, which, in turn, is taken to be *analytically* identical to the notion of objectivity.[1] In his *Logic*, Dewey maintains that object is the name we give to the subject-matter of an inquiry when the latter has eventually come to an end, and the problem that called out the inquiry is satisfactorily solved. Through the process of inquiry, new concepts are constructed that are supposed to satisfy the demands of the problematic situation. If those concepts succeed in bringing about the expected result – i.e., "the establishment of an objectively unified existential situation" (Dewey 2008b: 109; see also Dewey 2008b: 287) – then we cash out their logical import, to use Dewey's own words. Once the course of inquiry is proved to be successful, objects are con-

[1] I disagree on this point with Hildebrand, who argues that pragmatic objectivity is to be understood as a regulative ideal rather than as the end state of inquiry (Hildebrand 2011: 595). In my view, Hildebrand's account risks making objectivity explanatorily useless. Having said that, his insistence on the epistemic nature of democracy – which is the overall theoretical framework in which he formulates his conception of pragmatic objectivity – is in deep agreement with the approach I advocate. On this point, see also Frega 2012, Talisse 2007 and 2013.

structed or re-constructed, and they can be applied in overt activities that are directed to modifying the environment.

These remarks lead directly to the other point that I believe is worth mentioning. As is well known, the pragmatist philosophy of science is committed to a problem-solving conception of scientific activity. Dewey argues that an inquiry is solely defined by the specific problem that it attempts to solve, and that the different phases of an inquiry are held together by the so-called tertiary quality that uniquely characterizes that specific inquiry. It follows, therefore, that the criteria for assessing empirical success depend on the goal that the inquirer is expected to reach in order to appropriately reconstruct the problematic situation that originated the course of inquiry. Consequently, the criteria for objectivity are likewise context- and practice-dependent. Look at the purpose of the inquiry and you will have all the information you need to understand what kind of empirical success – and, accordingly, what kind of objectivity – is at stake in that particular activity.

A word of clarification is needed before we continue. The pragmatist account of inquiry is usually cast in individualistic terms. Take up Dewey's theory of inquiry again: because of his biologically-centred understanding of human activity, he conceives of inquiry as a process through which an organism reconstructs its environment. Now, I believe that, though pragmatists have been mostly individualistic in their approach to inquiry, this by no means entails that any pragmatist philosophy of science should be so. Quite the opposite, the Peircean idea of a community of inquirers provides a useful springboard for the formulation of a pragmatist social epistemology that acknowledges groups as legitimate epistemic agents (Barrotta 2018). This is the path that I would like to follow here.

With this in mind, we can finally turn to the distinction between scientific and public inquiry. I assume that we all share some solid intuitions about the nature and structure of scientific inquiry – so I will take the notion for granted. By "public inquiry", on the contrary, I mean to refer to those inquiries that deal with problems in which scientific and evaluative elements are inextricably entangled, as a consequence of which the members of the public – i.e., the citizens who are affected by the consequences of the problem (Dewey 2008a) – are legitimate participants in the inquiry. So, a paradigmatic case of a public inquiry is one in which a) disentangling scientific knowledge from the ethical, political and social consequences that are connected to, and follow from, the application of that knowledge is believed to be impossible; and[2] b) it is also be-

[2] A stronger thesis may be advanced, according to which it is because of such an entanglement that the members of the public have some knowledge that is relevant to the satisfactory solution of the problem. I am ready to accept such thesis, but, since I do not have space in here to articulate that view, I will leave the issue partially unexplored. It is clear, however, that the two clauses are not on the same

lieved that the members of the public have some knowledge which is relevant to the satisfactory solution of the problem.[3] Clearly, scientific knowledge and evaluative concerns can be distinguished in the course of the inquiry; nonetheless, one element cannot be – and should not be – severed from the other. Part of the complexity of such a situation is due precisely to the fact that we cannot boil down the problem either to its factual or to its evaluative components.

Intuitively, the distinction between scientific and public inquiry is quite obvious, and it can be formulated in many different ways. For instance, we may argue that scientific inquiries are those that are conducted within a laboratory; public inquiries, on the contrary, are those that take place in the real world (Latour and Woolgar 1979, Callon, Lascoumes, and Barthe 2009). Such an insight is well-grounded and lies at the core of the distinction made in epidemiology between efficacy and effectiveness. Alternatively, we may say that scientific inquiries are after robust generalizations, while public inquiries are concerned with the application of the generalizations discovered by scientists to some specific cases. In this sense, scientific inquiries are distinguished by recourse to abstraction and idealization, while public inquiries are engaged in processes of de-idealization, thanks to which scientific knowledge is brought down to earth and applied to the circumstances under investigation (Potochnik 2017, Knuuttila and Morgan 2019, Barrotta and Montuschi 2018b). Finally, we may try to formulate that distinction in terms of the people who are legitimate participants in the inquiry. This is, I believe, a more promising approach, provided one can do better than simply concluding that an inquiry is public if and only if its members are legitimate participants in the process of inquiry. The latter is less of a clarification than a definition and, as such, it does not have any explanatory role.

level. Clause a) states a *de facto* condition: in our contemporary societies, which are grounded on the division of cognitive labour, recommending public inquiries on scientific or technical issues is hardly conceivable. That would sound epistemically unacceptable to almost anyone – with the remarkable exception of strong social constructivists. Clause b) specifies the conditions on which it is legitimate, from an epistemic perspective, to include citizens in the community of inquirers. If some relation of grounding holds between the two clauses, then we may dispense with clause a). I would like to thank Marco Menon for helping me clarify my thoughts on this point.

[3] What kind of knowledge citizens are capable of bringing into the conversation, thus actively contributing to the public inquiry, is left unspecified here. At the present stage of analysis, the goal of this article is to provide an argument in support of the possibility of public inquiry, not to identify the specific epistemic features of the citizens' knowledge. It might be that such issue is deeply connected with the one concerning the existence of moral expertise, but other lines of thought can be envisioned. For instance, it may be argued that citizens have a privileged epistemic access to their behaviour; accordingly, if their future behaviour is considered relevant to the success of the public inquiry, then one can reasonably conclude that the citizens' knowledge should be aggregated into the total knowledge of the problematic situation.

I hold that the pragmatist philosophy of science enables us to draw a distinction between scientific and public inquiry in a simple and straightforward manner, which also encompasses and accounts for the other criteria which have just been mentioned. My thesis is that it is the definition of the problem that establishes whether an inquiry is scientific or public: by defining the problem as so and so, we fix the criteria by which we can assess whether the inquiry succeeds in reconstructing the problematic situation or not; consequently, we also establish what features of the problematic situation are to be taken into account, by whom, and from which perspective. To say that the standards of empirical success are dependent on the definition of the problem entails that the means required to reach that goal are also dependent on that definition. Accordingly, that between scientific and public inquiry is a functional distinction: it is a distinction that originates within inquiry, as a consequence of the clarification of the kind of problem that we are going to address.

Take, for instance, the current Covid-19 pandemic. If we decide to define it as a medical problem, then the criteria for empirical success will be the suppression, containment, and eventual eradication of Covid-19, and the means to achieve that goal will exclusively be public health measures. On the contrary, if we decide to define it as a more complex problem – for instance, including economic and social concerns – the criteria for empirical success will dramatically change, and so will the means required to satisfactorily solve the problematic situation. Nonetheless, it is only when we decide to take into account, as a distinguishing feature of the problematic situation, the entanglement of factual and evaluative components, and we decide to include citizens as legitimate participants in the process of inquiry, that the problematic situation gives rise to a public inquiry, with other specific criteria for success.

Some relevant consequences follow from this approach to the distinction between scientific and public inquiry. I will just mention two of them, which are particularly important in the present context. First of all, the distinction between public and scientific inquiry cannot be boiled down to the distinction between those inquiries that concern citizens and those that do not. It may be that the best way to deal with a problem that affects the lives of citizens is by treating it as a scientific problem, thus restricting the community of inquirers to the scientists who are competent in that field. So, for instance, it may be that we'd better defer to economists to choose an appropriate tax system, even though it is evident that their choice will significantly affect our lives. In this sense, the distinction between scientific and public inquiry is orthogonal to the distinction between natural and social or human sciences; therefore, it should not be viewed as an attempt to surreptitiously sneak in the idea that the latter are less scientific than the former. Similarly, the functionalist approach

that I am advocating here does not intend to be normative with respect to the specific institutional settings in which public inquiry should take place. A democratic society in which inquiry can be freely carried out is likely to be a necessary condition for public inquiry; apart from this extremely general consideration, however, I believe nothing else can be legitimately derived from my approach. The task of identifying the institutional settings that could support and foster public inquiries is up to political science.

Secondly, it should be clear that the distinction between public and scientific inquiry is primarily epistemic: it has to do with the types and forms of knowledge that are deemed relevant to the solution of the problem that caused the inquiry. The epistemic question that has to be addressed is, therefore, "what knowledge is needed to adequately handle the problematic situation?" Now, since knowledge is situated in groups, the question can also be formulated as follows: "what groups have to be included in the community of inquirers to adequately handle the situation?" As we mentioned above, the answer to those two questions defines the kind of inquiry that has to be undertaken. The thesis that I want to put forward is that such answer also defines the kind of objectivity that is appropriate to the inquiry at stake.

2. *Scientific objectivity*

In the case of scientific inquiry, a great deal of work has already been done on the notion of objectivity. Different approaches to the issue are possible. Some attempts have been made to single out a distinguishing feature of scientific objectivity as in (Nozick 2001), in which it is argued that "[a]n objective fact is invariant under various transformations" (Nozick 2001: 76). Others have identified objectivity with some set of values that should succeed in shielding knowledge from what is merely subjective. The most famous example of such a line of thought is the appeal to the value of neutrality. Others, on the contrary, have argued for an eliminative stance. So, for instance, Hacking has advanced the argument that "objectivity" should be conceived of as an elevator word which gives rise to second-order questions that are useless for addressing first-order questions originating in scientific practice. For this reason, he recommended "not to talk about objectivity" (Hacking 2015; see also Novick 1988). My favourite approach, however, is of a pluralist kind: due to the plurality and heterogeneity of scientific activities, I believe that it is not promising to take a reductionist perspective, which aims to simplify a complex phenomenon like objectivity by reducing it to only some of its manifestations, the others being considered either irrelevant or deducible from the core properties. At the same time, I believe that the notion of objectivity plays an explanatory role, earning it a place in our toolkit.

From a pluralistic perspective, of which she is a major proponent, Heather Douglas has spoken of the irreducible complexity of the notion of scientific objectivity. Her point is that "there is no single sense that captures the meaning of objectivity": even though conceptual connections can be found across its different senses, which only provide coherence to the concept of objectivity, "[n]o one concept emerges as core" and "no one mode or sense can serve as the surrogate for the others" (Douglas 2001: 455). I find the taxonomy that she derives from those insights extremely useful. I will briefly summarize her conclusions here, and then I will use them to clarify the notion of public objectivity.

Firstly, Douglas distinguishes among three major modes of objectivity, which she names Objectivity_1, Objectivity_2, and Objectivity_3. Those three modes are different in the features of objectivity that they aim to highlight. Objectivity_1 refers to the "processes where humans attempt to interact with the world"; objectivity_2 focuses "on an individual's thought process" and on the role that values play in that process; finally, objectivity_3 focuses on the way in which agreement can be achieved through social processes (Douglas 2001: 455-456).

In its turn, every mode is internally divided. So, two are the senses in which a process can be said to lead to objective results. First of all, objectivity_1 can be understood in terms of manipulability: Hacking's motto "if you can spray them, they are real" (Hacking 1983: 23) provides the best exemplification of this particular form of objectivity. If you succeed in using the world to reliably produce the desired effect, you do not doubt that you are actually manipulating an object; nor you doubt that the latter has the properties that you believe it to have. If the same course of activity can be replicated, then you are led to believe that you are on to something. By manipulating the elements of the situation, the world gives feedback to the agent, and in so doing it proves the objectivity of the conceptual apparatus that guided her activities.

One other distinguishing feature of objectivity_1 is the convergence of various lines of research toward one common solution. If several independent witnesses report the same event, we take it as a sign of the reliability of the testimony. Similarly, if the same phenomenon is investigated in different ways, and the same result always occurs, we conclude that the latter is not an illusion. Since that result does not depend on a particular methodology of inquiry, we judge it as objective. Obviously enough, such sense of objectivity_1 is close to the idea of invariance advanced by Nozick.

If objectivity_1 has to do with the reliability of the results achieved through a course of inquiry – be it commonsensical or scientific – objectivity_2 and objectivity_3 are concerned with the reliability of the processes through which such results are reached. In the case of objectivity_2, the issue is how to pro-

tect the individual processes of reasoning from personal biases. The alleged distorting factor is the use of values in the course of the inquiry. However, values can enter into the inquiry at different points and for different purposes. According to the first and less controversial sense of objectivity$_2$, we should not use values in place of evidence. In other words, we should not let our values, interests, and expectations interfere with the facts. This is the idea of detached objectivity$_2$.

One may want to push such a ban of values further and completely exclude them from science. Detached objectivity$_2$ is thus reformulated as value-free objectivity$_2$. According to such more restrictive sense of objectivity, a process of inquiry is objective if and only if no value whatsoever is referred to. The rationale behind this view is that values are inherently subjective and, consequently, cannot yield an objective result.

Another sense of objectivity$_2$, which is more relaxed about the presence of values in inquiry, is related to the idea of neutrality. In the sense in which Douglas uses that formula, neutral objectivity$_2$ refers to the fact that each value deserves to be taken into consideration in the course of the inquiry. Neutrality means, therefore, impartiality: the goal of neutral objectivity$_2$ is not that of expunging values from the inquiry, but rather that of reaching a balanced conclusion. An inquiry is neutrally objective$_2$ when it takes no side, "not making commitments to any one value position" (Douglas 2001: 460).

Finally, objectivity may also refer to those features of social processes through which groups of inquirers reach reliable conclusions. The notion of objectivity$_3$ is intended precisely to highlight this point. So, it can be said that social processes are objective if they are procedurally sound, i.e., if the same result is reached "regardless of who is performing the process" (Douglas 2001: 461). In doing so, the ideal of procedural objectivity$_3$ puts some severe constraints on the types of processes that can be admitted: it has to be uniform and allows for the interchangeableness of the members of the group.

Besides, objectivity$_3$ can be framed in terms of inter-subjectivity. The simplest way of ascertaining whether different persons agree on a certain assumption or not is by polling their views on the matter. No interaction or discussion between the members of the group is allowed: the rationale behind this approach is that agreement between people is to be treated as a fact, which is discovered and recorded through polls. Douglas names it concordant objectivity$_3$.

However, we may not be satisfied with concordant objectivity$_3$; it may be that we are in search of a more inclusive conception of inter-subjectivity. Intuitively, we do not want to be as rigid as concordant objectivity$_3$ prescribes us to be; we may be happy with allowing people to freely discuss their opinions so as to eventually reach a shared and truly inter-subjective conclusion.

Concordant objectivity$_3$ does not rule out the possibility of a collective bias; for instance, it does not envisage any mechanisms for testing the premises of the argument. This is clearly not compliant with scientific practice, which acknowledges the importance of peer-disagreement as a way to enhance the quality of scientific outputs. We are thus led to see a different sense of objectivity$_3$, which is built on the assumption that science is a social activity in which opinions are criticized, data are discussed, models are examined, and so on. This is the kernel of interactive objectivity$_3$.

Those modes of scientific objectivity are not reciprocally exclusive, even though some combinations seem to be less stable than others. What all those modes have in common, however, is the idea that the participants in the process of inquiry are either epistemic peers or, in those cases in which the course of inquiry is individual, that they are in an optimal epistemic position to understand what is going on in the situation that they are facing. The implicit assumption in Douglas's taxonomy is that all the members of the group can equally contribute to the inquiry. In some cases, this is also explicitly stated: for instance, convergent objectivity$_1$ assumes that different lines of investigation, carried out by different scientists, lead to the same result. This implies that all researchers are equally reliable, otherwise converging towards one result would be no evidence of objectivity.

Such assumption is justified by Douglas's interest in clarifying the nature of scientific objectivity. It does not hold in a different scenario, in which the community of inquirers is composed of epistemically unequal agents. So, the question that needs to be addressed is: would a different composition of the community of inquirers somehow change the notion of objectivity? Or, in other words, what are the main differences between *scientific* and *public* objectivity?

3. *Public objectivity*

In the article *Using Science, Making Policy: What Should We Worry About?*, Montuschi correctly remarks that "science provides *a* model of objectivity, and it staves off only some of the dangers that 'objectivity' is supposed to protect us from" (Montuschi 2017: 59). Her point is that other cognitive activities are regulated by the ideal of objectivity, even though the kind of objectivity which they look after is not the one pursued in science. So, she asks: "are we dealing with the same concept of objectivity when we shift from science to policy?" (Montuschi 2017: 59). Her answer is negative.

Take evidence-based policy making (EBPM). EBPM relies on science in the belief that scientific knowledge is helpful in making policy decisions more objective. Nonetheless, it is also believed that we should not let science invade

and occupy the public space.[4] As Montuschi remarks, "[p]olicy making is a complex activity," and "[s]cientific evidence is only one of its building blocks, along with attention paid to social, ethical, cultural, legal, economic, and not the least ideological or even electoral considerations" (Montuschi 2017: 75). We need, therefore, a different concept of objectivity, which could grasp the distinguishing features of EBPM. That concept she names "practical objectivity".

My notion of public objectivity is modelled after Montuschi's.[5] I agree with her that a new form of objectivity has to be acknowledged, so as to block out the reductionist view that "reliable decisions can simply be 'read out' of scientific facts" (Montuschi 2017: 75). Scientific facts *must* be adequately taken into account in EBPM or public deliberation: if they are overlooked or their relevance to the case under discussion is downplayed, the inquiry will be at best successful by chance. Accordingly, the two notions have to be somehow integrated – they are by no means in conflict. Nonetheless, public objectivity is internally more articulated and more complex than scientific objectivity is.

In her article, Montuschi points out three aspects in which practical objectivity (PO) differs from scientific objectivity (SO). She writes that a) "PO is an inclusive rather than exclusive concept;" b) "PO is aim-sensitive rather than aim-neutral;" c) "PO is an achievement rather than a protocol of research" (Montuschi 2017: 75). What she means with those statements is that PO is less abstract and idealized than SO; that PO is context-dependent, while we take SO to hold independently of the purposes for which it is used; that what counts as PO is not established in advance of the process that leads to that goal.

Those are very useful insights into the nature of public objectivity. Nonetheless, I think something more specific can be said in this regard. Even at a preliminary stage, it is possible to rule out some other features commonly attributed to scientific objectivity as unfit to represent public objectivity.

Let's go back then to the taxonomy of scientific objectivity provided by Douglas and see whether or not objectivity$_1$, objectivity$_2$, and objectivity$_3$ can

[4] This cautionary principle is grounded on different reasons. Some of them are political: for instance, it is feared that, due to its authority, science can be used ideologically to silence legitimate political dissent. Some others are prudential: it is not clear whether scientists are expected to inform or to advise, and such a lack of clarity may lead some of them to inadvertently trespass into the political field. Yet others, however, are, strictly speaking, epistemological and have to do with the structural differences that exist between scientific inquiry and political 'inquiry'. The latter are those with whom I am concerned.

[5] The most relevant difference that I can spot between our two approaches consists in the presentation of the problem. Montuschi seems to frame the whole issue in terms of the notion of application: this is why she chooses to speak of *practical* objectivity. On my part, I am more inclined to think of the whole issue in terms of the co-production of knowledge within a community of inquirers. In any case, this is less a substantial disagreement than a difference in emphasis.

provide a satisfactory account of public objectivity. Before starting the analysis, it may be useful to recall how public inquiry has been defined. Contrary to scientific inquiry, public inquiry is characterized a) by the acknowledgment of the entangled nature of the problematic situation at stake *and* b) by the belief that the entanglement between facts and values is to be dealt with by allowing citizens to participate in the community of inquirers. While the former clause states a necessary condition for an inquiry to be public, it is the latter that ensures the publicity of the problem and, consequently, of the inquiry which is aimed at solving it.

In this context, which is an expert/layperson scenario, it seems evident that objectivity$_1$ is to be discarded. As a matter of fact, since objectivity$_1$ is concerned with the reliability of the results achieved through a course of inquiry, if the community of inquirers is thus formed that some of its components cannot undertake that course of inquiry because of their lack of competence in the field, then it is not possible for them to assess whether the reached results are reliable. Consequently, public objectivity cannot be understood in terms of objectivity$_1$ – be it manipulable or convergent objectivity.

Things are more nuanced when it comes to objectivity$_2$. Clearly enough, value-free objectivity$_2$ – the idea that all values and interests are banned from inquiry – is untenable as a representation of public objectivity. As every inquiry, public inquiry is directed to an aim; besides, it is commonly held that one of the reasons why citizens may be willing to participate in the community of inquirers is because they are interested in responding intelligently to a problematic situation that concerns them. Values, interests, and concerns are, therefore, spread over public inquiry.

On the contrary, I believe that detached objectivity$_2$ and value-neutral objectivity$_2$ grasp some relevant aspects of public objectivity. In no inquiry whatsoever is one allowed to use values in place of evidence; at best, the values and concerns of the citizens participating in public inquiry may constitute *part* of the evidence that is relevant to the inquiry – which is a point that I am ready to concede. For instance, I think that it is reasonable to include in the evidence of the case what the members of the group affected by the problematic situation want. But this does not entail that the values, interests, and concerns of the inquirers can take the place of evidence or modify it when the latter is perceived to conflict with the former.

Similarly, I believe that it is convenient for a public inquiry to take a position that is respectful of the different values held by its participants. Value-neutral objectivity$_2$ can thus be viewed as a necessary condition to reach a reflectively "balanced position," which is one of the features that we would like public objectivity to have (Douglas 2001: 460). I will come back to this point in the next section.

Finally, let's turn to objectivity$_3$. I think it should be evident that procedural objectivity$_3$ is to be resisted. The rationale behind procedural objectivity$_3$ is that, no matter who is going to participate in the process of inquiry, the same outcome is always produced. Intuitively, this is not what we want from public objectivity: since public inquiry is concerned with a problematic situation that affects the lives of the members of a specific group, the composition of the community of inquirers is likely to have some consequences on the outcome.

We should also discard concordant objectivity$_3$. Concordant objectivity$_3$ results from of a process of belief aggregation, in which the participants are not allowed to interact with the others. This is because concordant objectivity$_3$ aims to assess what people believe about a certain situation or subject-matter, not to develop an opinion in which they all agree. As such, that is a too reductive conception of objectivity.

On the contrary, interactive objectivity$_3$ depicts a pivotal feature of public objectivity. It is almost a platitude that objectivity arises from free discussion among the participants in the inquiry: it holds both for common-sense and scientific inquiry that free discussion enables the inquirers not only to detect and revise their errors or biases, but also to better clarify their views on the matter. No surprise, therefore, that public objectivity accommodates interactive objectivity$_3$.

In the light of what has just been said, we can easily enrich Montuschi's characterization of public objectivity. Montuschi rightly insists on three aspects of practical or public objectivity: a) it is inclusive, in that it does not resort to idealization and abstraction; b) it is aim-sensitive; and c) it has to be conceived of as an achievement rather than a protocol of research. We now know that public objectivity is also detached (values cannot be used in place of evidence) and value-neutral (a reflective equilibrium has to be reached). Furthermore, it is intrinsically interactive: public objectivity stems from a free discussion among the members of the community of inquirers.

At a preliminary level, that clarification is satisfactory; it grasps those aspects that we intuitively associate with the notion of public objectivity. But is this all that can be said about it? Can something more be added to such a sketchy characterization? In particular, can we draw some relevant consequences about the nature of public objectivity from the shift from an expert/expert to an expert/layperson scenario?

4. *Language and expressive objectivity*

While discussing interactive objectivity$_3$, I have remarked that public inquiry is an activity of reciprocal confrontation and dialogue, through which only agreement could be reached. In doing so, I have deliberately stressed the

continuity between scientific and public objectivity; it belongs to the nature of inquiry to be a self-corrective activity that allows us to discuss, check, and revise every assumption – be it implicit or not – that is relevant to the case. In other words, collective inquiry structurally depends on the possibility of formulating each passage of the process of investigation in linguistic terms, thus making it possible for the participants in the inquiry to critically inspect the tools that are to be used in the course of activity.

In the case of scientific inquiry, linguistic competence – the ability to express views, biases, and assumptions in a linguistic form – is continuous with tacit knowledge. Scientists present and submit the results of their work to the judgment of their peers, who are – at least to some extent – capable of replicating the experiment or train of thought that has led to those results. The linguistic formulation of the various phases of inquiry is essentially intertwined with the capacity to perform those activities that are necessary to carry on the inquiry: knowing that and knowing how go, therefore, hand in hand.

On the contrary, in the case of public knowledge, the essential interwovenness of knowing how and knowing that is *in principle* impossible. Laypeople are defined precisely by their lack of scientific training: if laypeople were capable of conducting a scientific inquiry, they would be scientists rather than laypeople; public inquiry would then turn into a scientific inquiry and the very problem of public objectivity would disappear. Accordingly, if an agreement is to be reached, it can only be reached at the linguistic level. Public objectivity is essentially linguistic.[6]

That conclusion should come as no surprise; it was implicit in the arguments that led to the rejection of objectivity$_1$ as a proper characterization of public objectivity. But it can also be viewed as following directly from an important insight that has been formulated first by Collins and Evans. In their works, Collins and Evans draw a distinction between interactional and contributory expertise. The latter is full-fledged expertise, namely that kind of expertise which "enables those who have acquired it to *contribute* to the domain to which the expertise pertains" since "they have the ability to *do* things within the domain of expertise" (Collins and Evans 2007: 24). The former, i.e., interactional expertise, consists in the ability to *master* a specialist language. The point that Collins and Evans stress is that such an ability to properly speak a specialist language does not imply the ability to contribute to the domain of expertise. By being immersed in a community of specialists and by being exposed

[6] That does not mean than public inquiry is *purely* or *exclusively* linguistic. From a pragmatist perspective, an inquiry is a process of *objective* modification of the environment, which makes use of linguistic tools (see above section 2).

to their linguistic products, an individual can eventually learn the specialist language without having the know-how that is necessary to contribute to the collective process of knowledge acquisition. Even though she cannot directly participate in, and contribute to, the inquiry, she can nonetheless interact with the scientists by mastering the language of their discipline.

The rationale behind Collins and Evans's notion of interactional expertise is that language is somehow independent of the practices in which that language is grounded and whose contents it aims to express. This is due to the fact that the use of language is itself an autonomous practice ruled by specific criteria for efficacy and satisfactoriness. Now, one of the consequences that follow directly from the autonomy of language is that the same content can be *satisfactorily* formulated in different ways, according to the different compositions of the group to which the linguistic formulations are directed. A scientist will state the same concept differently if she is talking to a colleague, an informed amateur, or a person who has absolutely no knowledge in the area. The criteria for the success of her linguistic activity vary accordingly, depending on the specific context in which she has to act.

This rather unproblematic form of contextualism is relevant to my present purposes. As has been repeatedly said, the community of inquirers that originates in response to the acknowledgment of the public nature of a problem is composed of scientific experts, "local" experts (i.e. people who have local knowledge), and citizens affected by the consequences of the problematic situation, who are believed capable of providing some epistemic contribution to the solution of the problem, even though they do not have any kind of scientific competence or "local" knowledge.[7]

Now, one of the necessary conditions for an inquiry to be public is that all the members of the community of inquirers can participate in the process of inquiry. Since such a process is essentially linguistic, they must be able to understand each other's speech: in other words, for an inquiry to be public, the language by which the inquirers communicate must be public too. The existence of a shared language is taken for granted in the scientific communities: the acquisition of the scientific language is one of the primary goals of scientific training, on a par with the acquisition of the practical skills that constitute the scientific know-how that enables scientists to act as contributory experts. On the contrary, the construction of a public language is a task that public inquiry has to accomplish.

The idea of the publicity of language and, consequently, of the publicity of the inquiry which depends on it puts some normative constraints on what

[7] For an analysis of the notion of local knowledge, see, among others, Wynne 1996 and Barrotta and Montuschi 2018a.

public objectivity should be. First of all, it implies that the language in which the community of inquirers communicates has to be so constituted that every participant in the inquiry can understand the terms of the problem, as well as the different proposals that are advanced to deal with it throughout its stages. This is a minimal condition for the result of a public inquiry to be objective. It can be seen as a rather unproblematic corollary of interactive objectivity$_3$ when the latter is translated from a peer-to-peer scenario into an expert/layperson one: a fruitful interaction among different inquirers is possible if and only if they can understand each other.

Another, stronger criterion that can be derived from the normative idea of the publicity of inquiry has to do not with the bare capacity to understand the linguistic moves made in the course of the inquiry, but rather with the full-fledged acknowledgment of its publicity. What I have in mind here is something along this line: for an activity to be truly public, it is not enough that each participant understands what is said by the other participants; she also has to be convinced that her point of view is correctly presented and satisfactorily represented in the debate. If that condition is not met, the publicity of the inquiry is spurious.

That insight can be refined into a philosophical thesis. It can be restated as follows: the result of a public inquiry is objective if and only if the public language in which the inquiry is conducted is rich enough to make it possible for each member of the community of inquirers to formulate their viewpoint and to express their epistemic values.[8] In doing so, every participant is put in a position to make a contribution to the inquiry. Incidentally, this entails that the result thus reached is objective also in the sense that it issues from the best knowledge available on the matter. This latter aspect is a welcome by-product of the former: it adds an important layer of epistemic justification to that thesis.

This form of objectivity – which I call "expressive objectivity" – focuses on the expressive resources that a language must possess to lead to a solution to the problem that can be acknowledged by the participants in the inquiry as genuinely public. In this sense, it provides a necessary but by no means sufficient condition for public objectivity. There is nothing in it to prevent the result from being unsatisfactory, biased, or partial: it might be, for instance, that the final decision is taken unilaterally by one group and imposed on the other members of the community. In the latter case, even though the condition of expressive objectivity is met, we would be reluctant to say that an objective result has been reached. But this is not problematic from my perspective, since

[8] The rationale behind that assumption is similar to the one that justified the notion of strong objectivity. See Harding 2015 and Scheman 2011: chapter 11.

I have never meant to argue that public objectivity boils down to expressive objectivity. Quite the opposite, it is what one should expect from a pluralistic account of objectivity.

As a final remark, let me add a word of clarification. Saying that the notion of expressive objectivity does not coincide with or thoroughly explains the notion of public objectivity does not mean that the former kind of objectivity is ineffective or parasitic on the other features of the latter. By shifting the focus of attention away from the result of the inquiry to the resources of the language in which the community tackles the problem, expressive objectivity enables us not only to locate disagreement in the course of inquiry but also to provide some criteria to assess its legitimacy. This is a particularly welcome result. One of the most challenging problems in the contemporary philosophy of science is to find a productive equilibrium between the search for consensus and the need to preserve a place for dissensus (Laudan 1984, Kitcher 2012). Intuitively, we want to preserve dissensus in science, since we believe that a plurality of lines of research would enhance the chances of achieving relevant knowledge. At the same time, however, we want to keep the potentially disruptive effects of dissent at bay: if the existence of a single contrary opinion is considered sufficient to reject – or withhold from accepting – the conclusion arrived at by the majority of the scientists working in that field, then no scientific consensus could ever be reached.

The idea of expressive objectivity claims to deal with that problem. On the one hand, it makes room for a plurality of viewpoints: in doing so, it acknowledges the creative function of dissent, and cashes out its epistemic import in concrete and pragmatic terms – namely, in terms of their contribution to the refinement and enrichment of the process of public inquiry. The richer the language of the community of inquirers, the better the definition of the problematic situation and, consequently, the statement of the various planes of activity through which that situation is handled. On the other hand, however, since expressive objectivity identifies the fruitfulness of dissent with the contribution that different viewpoints can make to the inquiry, the recognition of the importance of dissensus does not prevent sound consensus from being reached, even in those cases in which the outcome of the inquiry does not gain universal acceptance.

5. *Conclusion*

In his *Solidarity or Objectivity?* Rorty has notoriously maintained that solidarity and objectivity are two different ways in which human beings try to "give sense to their life". Those two ways are not only different, but mutually

exclusive: while solidarity attempts to reach that goal by "telling the story of their contribution to a community;" objectivity describes human beings "as standing in immediate relation to a nonhuman reality" (Rorty 1991: 21). Rorty remarks that, while realists try to ground solidarity in objectivity, pragmatists go the other way around: they wish to ground objectivity in solidarity. To achieve that goal, according to Rorty, pragmatists should realize that "the desire for objectivity is not the desire to escape the limitations of one's community, but simply the desire for as much intersubjective agreement as possible, the desire to extend the reference of 'us' as far as we can" (Rorty 1991: 22).

Although I do not share either his *tirade* against epistemology or his too quick dismissal of the notion of objectivity, I believe that that Rortyan insight perfectly captures the rationale behind the notion of expressive objectivity. The extension of the possibility to actively participate in the inquiry to as many members of the community as possible secures the public nature of the inquiry and enhances the epistemic quality of the latter.

Even so, I am aware that the arguments put forth in this article rely heavily on philosophical idealization. They do not offer any suggestions about how to define the problematic situation – if it has to be understood as a scientific or as a public problem; nor do they provide any criteria to decide how the community of inquirers should be formed or how the public language should be constructed. I do not think that this is a shortcoming of my approach, though: as a pragmatist, I am deeply convinced that those are issues that cannot be solved on a purely philosophical level. The aim of the account of public objectivity that I have tried to outline here was far more modest. My goal was to develop some notions that could enrich our conceptual apparatus in a way that could help envision new forms of inquiry. What those inquiries would look like depends on the choice that the communities of inquirers will make in their collective efforts to deal with the problematic situations that they will be asked to solve.

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Five pragmatist insights on scientific expertise

Mathias Girel

Abstract: A common objection to a pragmatist perspective on scientific expertise is that, while there is a well-known pragmatist theory of inquiry, which was formulated first by Peirce, then refined by Dewey and others, this theory cannot provide a clear-cut account of scientific expertise. In this paper, after addressing this objection in the second section, I claim that, on the contrary, pragmatism offers robust tools to think scientific expertise. In Sections 3 to 7, I present five important insights that one can derive from a pragmatist epistemology when responding to contemporary problems posed by expertise: about science and scientific expertise in a legal context (sections 3 and 4), about collective expertise (sections 5 and 6), and even about expertise on ignorance (section 7).

Keywords: pragmatism; scientific expertise; skepticism; criteria; ignorance

1. *Introduction*

There is no real treatise on scientific expertise in classical pragmatism.[1] There is a pragmatist theory of inquiry, which was formulated first by Peirce, then refined by Dewey and others, but this theory does not seem to directly provide a clear-cut account of expertise.

A first – and to my mind superficial – explanation for this absence would be that this pragmatist account of inquiry is at odds with important features of expertise. One can mention at least five reasons for this: *(1)* expertise answers the need for a reliable answer, *(2)* in the short term, with *(3)* a reasonable degree of certainty; *(4)* it is given by identified individuals or groups, *(5)* on the basis of an accepted method. The Peircean account of inquiry, as developed in his 1870s papers and refined over the decades, is not meant as an account of reliability;

[1] There are papers on pragmatism and expertise though, see for example Beck 2015, or, about pragmatism, expertise and democracy, Brown 2009.

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it focuses on the long run rather than on short spans of time; it presupposes an unlimited community of inquirers rather than specific individuals or groups; it does not even spell out a particular method. On *(1-3)*, Peirce states clearly that science never allows "full belief", the kind of belief we need in action. It would thus be tempting to think that science, in his view, does not provide the kind of certainty we need in court, or in other matters, where we must choose an immediate line of conduct.[2] If science is in "pursuit of eternal verities" over the course of generations, its rhythm seems to be at odds with the timeframe of expertise. Inquiry never stops, we can only aim at the "final object" of inquiry, where all inquirers, starting from very different points, will eventually converge. On *(4)*, Peirce, at least from the 1860s, claimed that the real subject of inquiry – the inquirer – is not limited to a particular, historical, community: everyone who is able to understand the questions at hand and to contribute in a significant manner is part of the inquiry.[3] As for *(5)*, assessing scientific expertise seems to presuppose an account of what makes this expertise scientific, and Peirce, perhaps the most advanced of the pragmatists in mathematical and natural sciences, as well as in philosophy of science, always refused to identify science with one single method.[4] I shall address this objection in the next section, and show why the opposition mentioned at the beginning is superficial. However, I think that focusing on this point would lead us to overlook a more important fact: pragmatism offers robust tools to think scientific expertise. Accordingly, in Sections 3 to 7, I shall present five important insights that can be derived from pragmatist epistemology when responding to contemporary problems posed by expertise.

To present these insights, I shall build on four major pragmatist claims:[5] their common anti-skepticism, their approach to the elucidation of abstract

[2] "In other words, there is no reason to believe in the theory, for belief is the willingness to risk a great deal upon a proposition. But this belief is no concern of science, which has nothing at stake on any temporal venture but is in pursuit of eternal verities (not semblances to truth) and looks upon this pursuit, not as the work of one man's life, but as that of generation after generation, indefinitely". (Peirce 1960: 5.589).

[3] "Thus, the very origin of the conception of reality shows that this conception essentially involves the notion of a COMMUNITY, without definite limits, and capable of an indefinite increase of knowledge" (Peirce 1960: 5.311).

[4] "That which constitutes science, then, is not so much correct conclusions, as it is a correct method. But the method of science is itself a scientific result. It did not spring out of the brain of a beginner: it was a historic attainment and a scientific achievement. So that not even this method ought to be regarded as essential to the beginnings of science. That which is essential, however, is the scientific spirit, which is determined not to rest satisfied with existing opinions, but to press on to the real truth of nature. To science once enthroned in this sense, among any people, science in every other sense is heir apparent" (Peirce 1960: 6.428).

[5] These claims are discussed in more detail in Girel 2017a.

meanings, their attention to the "publics" and to the social nature of mind in general, and finally their understanding of knowledge as a capacity that can be fostered or impaired. Despite the movement's remarkable inner diversity, the pragmatist nature of these claims is not controversial. Pragmatists all share a staunch anti-skepticism: Peirce derided Cartesian "paper doubts", James tried to find cures to speculative melancholy and skepticism in his *Will to Believe*, Dewey wrote *The Quest for Certainty* to show that the quest for – absolute, theoretical – certainty was an ill-advised strategy to counter practical uncertainty. Skepticism, in their analyses, was in most cases the result of a misguided way of understanding science. They felt that one would certainly end up facing skepticism if one adopted epistemic goals that were too unrealistic, or an unreliable method, or if there were too many obstacles in one's way after adopting a given method to achieve a given goal.[6] Their fallibilist account of science was precisely an answer to this risk, as was the fact that they focused on the practice of science, as opposed to its idealizations. Secondly, they all have their own distinctive version of Peirce's maxim, urging us to pay attention to "practical bearings" in order to elucidate abstract terms. Thirdly, the social nature of mind can take several forms in the movement, from an emphasis on the semiotic community in Peirce to a full-blown theory of the publics in Dewey. Finally, Peirce, James and Dewey all thought that our beliefs were organically connected to our conduct, which led them to view knowledge as a capacity rather than as a mere state.

The intuition developed in Sections 3 and 4 is that skeptical risks can occur not only in our individual epistemic lives, but can also be caused by the definitions of science adopted by institutions, in particular when they regulate scientific expertise, and that a pragmatist account of abstract terms is better fitted to detect those risks and to offer countermeasures. Section 3 deals with general definitions of science in legislation, Section 4 with the criteria mentioned in the Daubert Framework regulating scientific expertise in the US, both at the federal level and in some states. In Sections 5 and 6, I address collective expertise: a "pragmatist" model of expertise can be a model where the public, in interaction with scientists and politicians, plays a prominent role (Section 5); it can also be a pragmatist way of looking at collective expertise in general, describing it in terms of collective actions and practical outputs (Section 6). Finally, there are situations where experts must testify not only about states of knowledge, but also about states of ignorance and, once again, apprehending knowledge as a capacity and beliefs as dispositions to act allows us to under-

[6] In his rereading of Descartes's first *Meditation*, Williams 2010 offers a nice reduction of "standard skepticism" along these three elements (goals, method, obstacles).

stand why this is possible (Section 7). The whole article can be read as a roadmap for the exploration of scientific expertise from a pragmatist standpoint.

2. *Inquiry and scientific expertise*

It would be misleading to think that one does not find precious resources to conceptualize expertise in Peirce. First of all, inquirers can provide reliable reports on the current state of knowledge: they do not need to wait for the "final opinion" to tell what science is capable of today. Thus, while it would be foolish to state right now what will be the eventual scientific verdict on dark matter, physicists can report reliably on present scientific achievements on the topic. When serving as experts, they can assess calls for projects on that topic, for example. Secondly, the crude opposition between the scientist *à la Peirce* and our naive view of the expert certainly tells more about our preconceptions of expertise than about expertise itself. Talisse made exactly this point when criticizing an abstract view of expertise as "elite" knowledge, far removed from the activity of research. The primary condition, in order to be an expert about extant knowledge, is to actually take part in a line of inquiry. Being an expert implies participating in research, and this participation is not understood by Peirce as "monolithic":

> …in the Peircean view, experts are not elites. That is, according to the Peircean, the status of being an expert is contingent on an ongoing engagement with inquiry; one is an expert insofar as one is continually engaged in the process of justification. Hence expertise is *not* a matter of standing above the processes of inquiry and simply issuing decrees and orders; no expert qua expert is entitled to deference. Rather, the expert is someone who must continually meet the challenges of issuing reasons, giving arguments, and meeting objections. That is, expertise is ultimately inseparable from inquiry, and, as we have seen, inquiry is an inherently inclusive process of exchanging reasons, arguments, and evidence. Yet these norms of inclusion do not require merely the removal of barriers to participation; they prescribe epistemic practice that actively *seeks out* and engages unfamiliar and unorthodox voices. concerns, and arguments. Were inquiry not constituted in part by norms of this active kind of epistemic inclusion, it could not perform its function of arriving at the best beliefs (Talisse 2013: 92).

Peirce actually served as a scientific expert early in his career, and this historical example seems to confirm that expertise, in his eyes, was then in no way disconnected from inquiry and the production of new knowledge.[7] This

[7] "Deposition of Charles S. Peirce, Wednesday, June 5, 1867" (Supreme Court 1868: 761-765).

example shows that, to him, providing expertise was not only a matter of stating an opinion, but also involved proposing a model and advancing science in a particular context. In 1867, a lawsuit caught the attention of all New Englanders: a wealthy heiress, Hetty Robinson, sued the executors of her aunt's will, producing a document allegedly bearing her aunt's signature. Since this document revoked the official will and granted Hetty Robinson almost all of the fortune bequeathed, in lieu of a much less advantageous distribution for the heiress, the whole question was to determine the validity of the new document, and in particular the authenticity of the signature. This trial, which has been remarkably documented,[8] opposed two approaches to evidence in the legal field, between classical empiricism and a new thinking imbued with the probabilistic spirit.

Each side had summoned academic witnesses. The defense had hired Oliver Wendell Holmes Sr and Louis Agassiz, two of the most respected scientists of the time. The former claimed not to see any "notable difference" between the inks of the two documents; the latter claimed to have checked the similarity of the two signatures under a microscope, and not to have observed any trace of lead, which could have indicated a pencil decal. These two strategies could be seen as belonging to classical empiricism: one is looking for a particular "impression", a single observation that will settle the case.

The prosecution had enlisted the services of Benjamin Peirce, then Professor of Mathematics at Harvard and Superintendent of the Coast Survey, assisted by his son Charles Peirce. Their own approach consisted in identifying the various downstrokes in the signature line, and they were able to observe from the outset that the thirty points they had singled out coincided *exactly* in two signatures: the will and another document. They then calculated the probability of this event occurring in general. They obtained forty-two signatures from the legatee and established, based on more than 25,000 comparisons, that there were only 5,000 cases of coincidence (*i.e.* cases in which one point corresponded to a similar point in another of the signatures). There was therefore one chance in five that a given point would be similar in two different signatures. This then enabled them – albeit based on the non-trivial, and objectionable, assumption that they were dealing with independent events – to state that the probability of producing two signatures with exactly these thirty points superposed was almost nil (corresponding to $\frac{1}{5}^{30}$).[9] The public saw this

[8] The main report is given by Fisch (Peirce 1982, 2: XXIII-XXIV) [hereafter W, followed by volume and page]; more context is provided by Menand 2001a and 2001b: 163 ff.

[9] "So vast an improbability is practically an impossibility. Such an evanescent shadow of probability cannot belong to actual life. They are unimaginably less than those least things which the law cares for" B. Peirce, quoted in Menand 2001b: 173.

as academic speculation, but it is one of the first scientific uses of probability in a lawsuit.[10]

Historians have raised criticisms about the calculation proposed by the Peirces (Meier and Zabell 1980), but the fact that their line of reasoning was sound has remained undisputed. If that is so, we can draw the following conclusions: this expertise involves an actual inquiry and fits all five criteria mentioned above: it provides a reliable answer (1), in the short run (2), with the best level of certainty available (3), by two experts, themselves members of specific epistemic communities (4), and relying on a statistical method, applied for the first time in court (5). Through this expertise, we have learnt something, for which they provide a model: that it is highly improbable to find two signatures that are exactly similar. Their model is connected to the last developments of science: the younger Peirce made a daily use of statistics in his work as a "pendulum swinger", and would shortly after apply the same resources to astronomical observations, the economy of research and the study of reaction time. Hacking sees here one of the first uses of statistics in court. This expertise also leads to reconsider the actual presuppositions of empiricism. The observable here is nothing without the mathematical apparatus required to evaluate it. What is supposed to determine the opinion of jurors is not an *isolated* fact (as Holmes and Agassiz seemed to believe) but a *relationship* between facts, in this case a relationship between favorable and unfavorable cases. Such proof was miles away from classical empiricism, as it involved a "relationalist" and probabilistic empiricism. The "conceivable practical effects" were not, even before Charles Peirce had written the first word of his pragmatism series, as rudimentary as a trace of pencil lead or the print of a pen tip.[11]

Let us assume at this point that a pragmatist theory of inquiry, such as the one developed by Peirce and his followers, not only accommodates a robust conception of expertise, but that history also shows that the practice of expertise coincides exactly with the first stages of Peirce's thought. Can we go a step further to show that a pragmatist view of expertise would not only, as a set of tools, better explain scientific expertise in court but also, as a substantive theory, be preferable to some other alternatives?

[10] In the quoted article, Menand rightly points out that DNA identifications are also based on probability (and that, in the case of the O.J. Simpson trial, the DNA evidence was of less weight than the famous glove) (Menand 2001a: 70).

[11] This was by no means Peirce's only experience in expertise, see for example W8: LXXXVI.

3. *Science in court: demarcation, skepticism and ambiguity*

Before turning to Daubert in the next section, let us see how institutions can actually endorse epistemological claims. Disputes about *what science is* have been frequent in court, one of the most famous examples certainly being the *Epperson vs Arkansas* trial[12] over the equal treatment of "Creation Science" in the classroom. As is well known, Judge Overton turned on that occasion to philosopher Michael Ruse for a series of demarcation criteria. The idea was to show that Creation Science did not meet these criteria, hence that it was no science at all but was in fact religion in disguise, so much so that it violated the Establishment clause[13] and should therefore not be allowed in public classrooms. There were five criteria:

> [Science] is guided by natural law; it has to be explanatory by reference to natural law; it is testable against the empirical world; its conclusions are tentative, *i.e.* are not necessarily the final word; and it is falsifiable (*McLean v. Arkansas, 529 F. Supp. 1255 (E.D Ark. 1982)*).

The first three criteria can notoriously be found in Hempel (in his deductive-nomological account of law and his logic of confirmation), the last two in Popper (fallibility, refutability), which is already a strange mix, since these epistemologies are at odds on many important points, starting with the role of confirmation and induction. I wished to mention this historical background before turning to Daubert, because it definitely presupposes a specific line of argumentation: *Consider a corpus C; Consider x criteria covering any scientific explanation (and nothing else); Does C fit all x criteria? If not, C is no science.*

In view of our mention of skepticism and pragmatism, such an approach is immediately open to skeptical challenges. The first danger is to uphold too dogmatic a view of science: the argument needs a substantive characterization of science *in general*, and the ensuing debate between Ruse and Laudan showed that the definition encapsulated in Overton's criteria certainly was controversial (Laudan 1982; Ruse 2009). As Laudan also remarked, even with goals such as keeping creationism out of the classroom in mind, it is certainly better to show that a set of claims, in this case creationist geology, has been *refuted*, or "debunked", than to immunize it by saying it is *irrefutable*. The danger, this time, is to spark off a second controversy over the importance and value of demarcation arguments and thus about the demarcation strategy itself.

[12] See Forrest and Gross 2004.

[13] Part of the *First Amendment*, stipulating that "Congress shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof". Introducing a particular religious doctrine in the curriculum would amount to "establishing" it against other creeds or denominations.

Moreover, putting such a definition of science in a legal opinion sets a dangerous precedent: if one wants to change the science curriculum for religious or ideological purposes, a likely move will then be to try and change the very definition of science in the standards in order to circumvent the criteria, thus introducing skeptical challenges over science itself in the legislative process. This is exactly what happened with the *Intelligent Design* movement[14] in many states. Here is an example from Missouri in 2013, with a failed legislative attempt at redefining science:

> "Scientific theory": an inferred explanation of incompletely understood phenomena about the physical universe based on limited knowledge, whose components are data, logic, and faith-based philosophy. The inferred explanation may be proven, mostly proven, partially proven, unproven or false and may be based on data which is supportive, inconsistent, conflicting, incomplete, or inaccurate. The inferred explanation may be described as a scientific theoretical model *Missouri HB291 (2013)*.[15]

Surely no one would like to teach an Epistemology course on the basis of such a poor and misleading definition of science. One cannot grasp what these statements are doing by mere semantical or syntactical analysis: a minimal pragmatist reading of them – taking into consideration what these definitions will *do* – is necessary if we want to understand their practical import. If such a definition was accepted, it would immediately release the pressure on the teaching of ID in the classroom. It makes sense indeed: the demarcation criteria were not used in order to tell science from pseudoscience in general in the first place, they were a litmus test for compliance with the Establishment clause; the challenge does not try to give a better description of science, it seeks to elude the grip of Overton's criteria. To account for what exactly is happening here, the Popperian or Hempelian "surface" of the criteria will not suffice: one needs a richer pragmatist perspective. A merely formal approach to science will be blind to such a problem; a pragmatist approach, considering the "practical bearings" of the adoption of a definition, will be better suited.

[14] For example, in the 2005 Dover trial, most of Steve Fuller's expert report in favor of ID attacked the idea of demarcation as outdated. See in particular: "ID is a legitimate scientific inquiry that does not constitute 'religion' in a sense that undermines the pursuit of science more generally or, for that matter, undermines the separation of State and Church in the US Constitution".(Rebuttal of Dover Expert Reports, Kitzmiller, *et al.*, *vs* Dover School District, *et al.*, 2005: 1)

[15] If the discussion moves to another level and addresses the context of the classroom, the next gambit will be to offer uncontroversial pedagogical norms to introduce Intelligent Design or germane topics; such has been the function of the "Teach the Controversy" campaign: appealing to the pedagogical interest of scientific controversies to introduce a fabricated controversy between standard biology and ID. See Campbell 2003 for an example and Branch, Scott, and Rosenau 2010 for an analysis.

Even if the direct skeptical risks are avoided, another danger is that even bad science will qualify, provided it even remotely fits the criteria: a climate change denialist paper, for example, "playing" the effect of the sun against that of greenhouse gases, would certainly qualify. The criteria are not precise enough: they do not say anything about *which* science is worth teaching. They seem to provide a useful demarcation between science and pseudoscience, while what would be needed, if they were to be generalized for the screening of curricula, is a characterization of *good and teachable science*. Science is not only a descriptive term, it is also a normative one, and it is possibly the latter sense which is implied here.

Being mindful of such differences in reference is crucial for pragmatists. Peirce, in *How to Make our Ideas Clear* (1878), wrote his famous maxim about reaching the third grade of clearness, in addition to being familiar with a notion and having a definition for it. The "pragmatist maxim" introducing this "third grade" is the following: "Consider what effects, that might conceivably have practical bearings, we conceive the object of our conception to have. Then, our conception of these effects is the whole of our conception of the object" (W3: 266). For example, in the context of mechanics, the notion of "force" does not refer to a shadowy entity but to the way we compound partial accelerations. "Hard" for a mineralogist means that his knife will not be able to scratch this rock. A term can be ambiguous, which is often the case in our conversations, and we generally disambiguate it by describing the context ("the practical bearings") we have in mind. Still, we must not have too narrow an idea of these practical bearings: they need not refer to particular sensations, or immediate gratifications, but should also cover more complex situations, such as making a judgment, solving a problem, building evidence… To give a pragmatist clarification is to make that background explicit by referring to what we aim to do, to our purposes, and that is exactly what was missing in the above example. In his comments on Whewell, Peirce understood scientific controversies this way. They always presuppose something beyond the terms of the controversy, which gives the latter all its weight and importance:

> A clear conception resulting from a discussion is often formulated in a definition, but […] in that case some proposition expressed or implied has always gone along with the definition. Thus along with the definition of the uniform force goes the proposition that gravity is a uniform force and along with the definition of the *Vis Viva*, and in the whole discussion concerning it, it is assumed that in the mutual action of bodies the whole effect of the force is unchanged (W2: 342).

We miss the gist of controversies if we just focus on definitions and fail to have the larger picture in mind. In the same way here, we need pragmatism

both for assessing the skeptical risks introduced by criteria *and* to account for what criteria should do and what they actually do.

4. *Daubert and the "Federal philosophy of science"*

Definitions of science can also be found in texts regulating the admissibility of scientific expertise in court.[16] Such is the case of the Daubert framework, used in federal courts and in some states of the United States. I shall not embark here into a discussion of all its philosophical aspects, since it is one of the most discussed legal texts. Instead, I shall confine myself to the un-pragmatic view of science present in what is called the Daubert "trilogy"[17] –*Daubert vs Merrell Dow* (1993), *General Electric Co. v. Joiner* (1997) and *Kumho Tire Co. v. Carmichael* (1999) –, examining it from the perspective and with the tools provided in the previous section.

What prompted this series of legal texts trying to redefine scientific expertise was initially the 1975 new Federal Rules of Evidence (FRE), which were too lax according to some observers (Huber 1991).[18] In one famous case, a psychic was even able to sue a clinic, claiming that she had lost her psychic powers after a scan, and she found an expert to assist her. In the context of *Daubert vs Merrell Dow*, a more classical case over a morning-sickness medication called Bendectin, the US Supreme Court had to rule, after a series of appeals, about the admissibility of an expertise which consisted in in vitro, in vivo analyses, pharmacological studies and a reanalysis of publications. The judges then issued a set of criteria, with additions in 1997 and 1999, which were incorporated into the FRE702:

> Many considerations will bear on the inquiry, including (1) whether the theory or technique in question can be (and has been) tested, (2) whether it has been subjected to peer review and publication, (3) its known or potential error rate and the existence and maintenance of standards controlling its operation, and (4) whether it has attracted widespread acceptance within a relevant scientific community (Daubert Standard, 509 U. S. 579, 1993).

As mentioned, this set was supplemented by others over time: *General Electric Co. v. Joiner* stated that the initial judgment could be reversed only in the

[16] It is not always the case; for another system, see Leclerc 2005. On Daubert, see Kaye 2004. On the implicit epistemology of these texts, see Haack 2005; 2010; 2016.

[17] Legal scholars have explored both the incorporation of Daubert in the Federal Rules and recalcitrance to those rules, see Bernstein and Lasker 2015.

[18] Peter Huber's standpoint is not neutral as he was, with the Manhattan Institute, a fierce critic of the legal framework regulating torts litigation (Huber 1990).

case of an "abuse of discretion" by the trial judge, and the framework was also extended to non-scientific, *e.g.* technical, expertise in *Kumho.* The criteria seem reasonable: the first one can fit either Hempel or Popper, depending on our understanding of "tested". Although it can be a problem if the case involves a medication that has been discontinued, or in situations where a test is not possible anymore, it involves a basic assumption and is not controversial *per se.* The second one is closer to the sociology of science: it is also reasonable, but a rare disease or the rare side-effects of a medication are not always documented in peer-reviewed journals. The third one is technical. The fourth is another version of a former criterion called the "Frye test". It was elaborated in the context of a 1923 trial where the expert, William M. Marston, a noted psychologist, proposed the use of a polygraph as a lie detector in favor of the defendant, James Frye. The expertise was dismissed because the judges felt that such a technique had not gained "general acceptance" in the relevant community:

> While the courts will go a long way in admitting experimental testimony deduced from a well-recognized scientific principle or discovery, the thing from which the deduction is made must be sufficiently established to have gained general acceptance in the particular field in which it belongs (FRYE vs. UNITED STATES. 293 F. 1013 (D.C. Cir 1923). 54 App. D. C., at 47, 293 F., at 1014).

Using such a test implies deciding which principles are "generally accepted" in a community. The problem is thus to know whether a judge, as opposed to an STS scholar or a scientist from the field, is in a good position to make such a judgment. In this instance, if the relevant community was that of experimental psychologists in 1923, it might be claimed that the use of the polygraph was in fact "generally accepted" (McCormick 1927, Alder 2007).

Other criteria were added in the course of time. The Court also made clear, in what is often called *Daubert II*, that the expertise should have no "inherent bias" and that, if developed in view of litigation, it should be treated with caution:

> One significant fact to be considered is whether the experts are proposing to testify about matters growing naturally and directly out of research they have conducted independent of the litigation, or whether they have developed their opinions expressly for purposes of testifying (Daubert v. Merrell Dow Pharmaceuticals, Inc., 43 F.3d 1311, 1317 (9th Cir. 1995)).

I have three series of remarks here:

1) *On the main presupposition*. As shown by Haack in her series of papers, the Supreme Court tried to derive reliability from validity. What was needed

was a reliable expert; the Supreme Court ruled that this reliability depends on whether a valid scientific method has been used. To qualify as a scientific expert, the expert has to convince the judge, in pretrial, that his/her testimony is founded upon science, upon "the" scientific method.

> In order to qualify as "scientific knowledge," an inference or assertion must be derived by *the* scientific method. Proposed testimony must be supported by appropriate validation—*i.e.*, "good grounds," based on what is known. In short, the requirement that an expert's testimony pertain to "scientific knowledge" establishes a standard of evidentiary reliability (509 U. S. 579, 1993, *italics mine*).

Trying to derive reliability from validity and mentioning Popper's authority is already a mistake in itself.[19] Moreover, the Supreme Court's implicit major premise, which we might call its "Master Argument", can be summed up this way: "there is a uniquely rational mode of inference or procedure of inquiry used by all scientists and only by scientists". Referring to "the" scientific method or to any equivalent is referring to a ghost: there is no such thing in general, and for a pragmatist it will immediately give rise to skeptical challenges. In addition, placing the judge in the situation of a gatekeeper turns him or her into a "super-epistemologist" (or "amateur scientist"), and no criteria are given to assess this kind of expertise. Peircean pragmatists, who frame inquiry as a communal endeavor, will also remark that, while the second and fourth criteria stress the social nature of science, the decision made by the judge will be a solitary one.

2) *On "Skeptical pressures".* If we have the initial picture of standard skepticism in mind, with over-optimistic goals, unreliable methods and epistemic obstacles, this set of criteria can be read as raising hurdles, and thus multiplying obstacles. This can be a good thing if it removes manifestly unscientific expertise from the courtroom. But if the criteria are interpreted as cumulative, the risk is that some science will not be able to make it into the courtroom: someone suffering from a rare disease might not have peer-reviewed research to back him up, so that the expertise might not fit the second criterion. Fingerprint identification had been used in court for over a century but its methods and results had not been published in peer-reviewed journals, fingerprints experts had to face Daubert challenges (Cole 2009). If research made in preparation for litigation is dismissed, some plaintiffs will have no case, since they need such research to substantiate their claims about undocumented effects, while corporate research made years in advance might not suffer from such a problem.

[19] "Corroboration (or degree of corroboration) is […] an evaluating report of past performance. [I]t says nothing whatever about future performance, or about the 'reliability' of a theory" (Popper 1972: 18).

It is possible, but I shall leave this question to historians, that the Post-Daubert era has been "tougher than before on expert testimony proffered by plaintiffs in civil cases" (Haack 2005: S70). David Michaels went even further, claiming that these hurdles prevented plaintiffs from having their day in court:

> While Daubert may have chased out some lawsuits based on questionable science, it serves to erect hurdles for scientific testimony and do not reflect the way science works, hurdles that may unduly protect wealthy and powerful defendants (Michaels 2008: 175).

He feared, or predicted, that the same evolution would occur at the level of regulatory agencies, pressed to adopt Daubert-like criteria:

> Likewise, the legal, economic, and political obstacles that regulators already face will seem trivial compared to what they will face if Daubert-like criteria are applied to each piece of scientific evidence used to support a regulation (Michaels 2008: 174).[20]

3) *Pragmatic concerns*. The problems mentioned in (1) and (2) can ground an argument in favor of a pragmatic approach to demarcation problems, of the kind defended by Resnik: demarcation criteria do not work in the abstract, they presuppose values, and they all have practical effects, which should be made explicit at the outset. Resnik argued in favor of including a multiplicity of interests when defining science for expertise, depending on the context: "[p]ractical interests and concerns should play an important role in answering the question 'what is science?' because they form an important part of the pragmatic features of this kind of question" (Resnik 2000: 262). Resnik further claimed that, without subscribing to a relativistic view of science, some criteria were more relevant in some contexts, such as education, law, medicine or engineering, and that, depending on the ends one was pursuing, a more conservative or a more liberal approach could be endorsed:

> Some emphasize testability or verifiability, others emphasize empirical support or reliability, and still others emphasize rational consensus, progress, problem-solving ability, explanatory power, and so on (Resnik 2000, 262).

These criteria all describe something that is an integral part of scientific research. Such a perspective would alleviate the skeptical risk induced by the "Master Argument" over science, while also helping to critically examine the kind of hurdles introduced by that series of criteria; finally, and more substantially, it would provide a more flexible framework. Caudill and LaRue, in what

[20] On this, see McGarity and Wagner 2008.

they consider to be a pragmatist contribution to the debate, have proposed corrections to the criteria, more likely in their view to be adopted by federal judges than Resnik's proposal: "*(1)* Medical Diagnosis Often Relies on Patient Reports, Not Objective Measurement Techniques, *(2)* Science Involves Uncertainty, Teamwork, and Alternative Explanatory Models, *(3)* Science Is Probabilistic, Not Certain, *(4)* Not All Scientific Knowledge Is Peer Reviewed and Published, *(5)* The Limitations of Social Science Do Not Make It Unscientific" (Caudill and LaRue 2003: 24-29). I fail to see any reason why these more flexible criteria would necessarily be more lenient, and they would surely fit the actual practice of science much better.

5. *Pragmatism and policy expertise*

With the case of Daubert, we have focused on scientific expertise provided by individual experts. Of course, the evaluation of the expert by the judge can take a dialogic form, but it addresses a single testimony, and the dialogue takes place before the expert testimony. However, this is only one of the possibilities for scientific expertise: there are more collective forms, which could also benefit from pragmatist insights and are better described in pragmatist terms, that is to say, in terms of what they aim *to do*, in terms of what they achieve, in terms of how they transform a situation.

Here, two approaches are possible. One can provide a typology of expertise where one variant will be considered "pragmatic", or more pragmatic, than the others: such will be the subject-matter of the present section. Another approach is to provide a pragmatic account of expertise, in particular collective expertise, including models that are not termed "pragmatic" or "pragmatist" by their advocates. I shall address this point in the next section. The two projects may certainly overlap but they have different goals: the first one regulates competing models of expertise, one of them being termed "pragmatic" or "pragmatist" for reasons that will be explained; the latter provides a pragmatic account of what collective expertise *does*.

I shall borrow a typology fitting the first scenario from Martin Kowarsch, as developed in Part II, Chapter 4 of Kowarsch (2016).[21] I shall focus here on Kowarsch's refinement of Habermas's typology, which is particularly helpful for

[21] Let me say clearly that I'm also well aware of the distinctly pragmatist contribution offered by Kowarsch in this monograph, in particular in his treatment of the fact/value entanglement, and that anyone interested in policymaking should read this book. As the author announces, the book provides "a philosophical framework for an appropriate contribution of the indispensable social-science expertise, particularly economics, to the public evaluation of and reasoning about climate policy options" (Kowarsch 2016: vi), a much-needed task indeed.

our discussion. Kowarsch addresses the normative underpinnings of four classical models of scientific expertise that are prevalent in policy: a "decisionist" model, a "technocratic" model, a "legitimisation" model and a "pragmatic" one.

In the first one, the Decisionist model, the ends, which cannot be established by experts (because of an alleged fact/value dichotomy and because they involve values[22]), are determined through political negotiations, and scientists provide expertise about the *means* required to achieve those ends. In this pattern, there are three distinct roles: the public can provide a formulation of the problem or raise claims, policymakers determine both the policy goals *and* the implementation of policies, and expert-scientists cast light on the appropriate means.

The Technocratic model, much discussed these last few years under the name of *epistocracy*, has a different structure: "[t]he proponents of the technocratic model argue that due to the increasing and huge complexity as well as the novelty of current policy problems, they can no longer be solved by politicians" (Kowarsch 2016: 88). If in the first model the public was able, in theory at least, to exert some pressure on policymakers regarding the formulation of the problem, and more generally the political agenda, its role is much more limited here: scientists, perhaps in collaboration with the public in the more liberal versions, are required to identify and formulate the relevant problems; to identify the relevant goals; and to prescribe the means, while policymakers, at the end of the process, simply implement the recommended policies. As Kowarsch remarks: "[t]he technocratic model suggests that scientific consensus can and should be created only through pure science itself, and denies the role of society, culture or politics in scientific knowledge production" (Kowarsch 2016: 90). Any strong mobilization from the public can only be counterproductive, and certainly irrational in some ways.

The first two models presuppose a strong separation between science and policy-making: they are variations of the "linear model", where policies somehow derive linearly from sound science, whether this scientific authority is omnipresent, as in the second model, or whether it is confined to the study of the means. The linear model also presupposes a grim picture of the public's ability to understand current challenges and to have an informed and valuable opinion about it. Both models involve substantial claims about the rationality of values and the possibility of rational public debates.

The "Legitimisation model" makes an instrumental use of scientific authority to legitimize policies: "[p]olicy options are legitimated by referencing scientific expertise, although – in contrast to the technocratic model – at least some of the players involved are well aware of the fact that the particular policy

[22] See Gronda in this volume for a perspective on this alleged dichotomy.

cannot be determined by the sciences in a largely 'value-free and objective' manner" (Kowarsch 2016: 94). This model looks like the decisionist model, but in surface only: the "science" (or "sound science") is carefully cherry-picked to fit the political ends. The epistemic authority here is just a mask for the sheer exercise of power.[23]

The "Pragmatic model" ("Pragmatistic", in Habermas) rejects both the technocratic idea that scientists, and only scientists, can settle means and ends, and the decisionist idea that the identification of means should be left to scientists only: "advocates of the pragmatic model usually state that the sciences cannot offer, roughly spoken, 'absolutely true' knowledge and that scientific knowledge is always highly value-laden" (Kowarsch 2016: 91). It involves, for the ends as well as for the means, "a critical interaction between the sciences, policy and the public" (Kowarsch 2016: 92). Seeing how this model is more pragmatic than the others might seem difficult at first sight, but the criticism of the fact-value dichotomy plays a core role here. This was already the case in Habermas's account, who insisted on the interaction between the expert and the politician: "[i]n the pragmatistic model the strict separation between the function of the expert and the politician is replaced by a critical interaction. This interaction not only strips the ideologically supported exercise of power of an unreliable basis of legitimation but makes it accessible as a whole to scientifically informed discussion, thereby substantially changing it" (Habermas 1971: 80). This last model is the most democratic one, since "social interests, as reflected in the value systems, are regulated by being tested with regard to the technical possibilities and strategic means for their gratification" (Habermas 1971: 80).

The democratic conception of the publics in Dewey, as well as the general criticism of the fact-value dichotomy (Putnam 2002), seem to give this model an advantage. The claim would thus be that, when it is possible to follow this Pragmatic Model, the "interactional" element allows us to reach the best balance by including all stakeholders. The adoption of a pragmatist perspective undermines the assumptions at the ground of the other models.

6. *Pragmatist accounts of collective expertise*

In the previous section, we have seen that one kind of model was deemed more "pragmatist" than the others: it is so if we understand "pragmatism" to involve substantial theses about the role of the public, along the lines of the third pragmatist claim presented in the introduction. If we consider the second claim, about meanings, and the fourth one, about beliefs as modes of action, another

[23] I cannot comment in detail here, but a very illuminating account is given in McGoey 2019.

pragmatist contribution can be helpful. The argument, this time, would be that all the models are better described in pragmatistic terms anyway: if technical terms are to be elucidated through reference to "practical bearings", as Peirce would have it, having a framework where expertise models are so depicted would bring us closer to a pragmatist reading of what collective expertise does.

Chateauraynaud and Debaz have developed an interesting matrix for collective forms of expertise in several texts, and particularly in their last major book (Chateauraynaud and Debaz 2017). It is no accident if we can give a pragmatist reading of their typology: for decades, Chateauraynaud has been developing an original pragmatist sociology in his lab, the *Groupe de Sociologie Pragmatique et Réflexive*.[24]

In his (Chateauraynaud 2009), Chateauraynaud, in addition to mentioning his relationship to Peirce's semiotics, Dewey's Theory of Inquiry and Habermas's theory of communicative action, provides three cornerstones of his own sociology. It is a sociology of "grips", or "grasps" ("*prises*" in French): it deals with the "means that lay or professional actors develop in their ordinary world in order to keep control on current actions, and the problems which arise when they experiment a break or a lack of grip". The idea is that, for a social world to even be possible, people and collectives need "common grips". This first claim is of course a distinctly pragmatic one, and it intersects with what Chateauraynaud has developed elsewhere about the "tangible" (Bessy and Chateauraynaud 2014). One thinks, of course, of Dewey and his distinction between the abstract external "grasp" of the rationalist and the pragmatist, interactional version of it: "[t]he essential difference is that between a mind which beholds or grasps objects from outside the world of things, physical and social, and one which is a participant, interacting with other things and knowing them provided the interaction is regulated in a definable way" (Dewey 2008: 160). Chateauraynaud provides a very detailed analysis of the ways in which this interaction can emerge or fail. The second claim involves possible transformations of society, through "the precise description of processes by which an alert or a criticism is taken seriously by different actors and enables them to transform collective devices, norms and institutions". The last series of claims, which gave rise to Chateauraynaud's notion of argumentative "ballistics", deal with disputes:

> What kind of disputing procedure is available and how [do] actors deal with the plurality of debate arenas or with the different forms of public discussion? How [do] controversies, public debates, court trials and political mobilizations affect the course

[24] A detailed and authoritative version can be found in Chateauraynaud 2011, but English-speaking readers can find a précis of Chateauraynaud's approach in *Public Controversies* (2009), where he defines his own Transformative Pragmatism.

of social transformations? […] A key issue is at stake: in what conditions new arguments could appear, could be transformed in common features and could inform the design of standard devices? (Chateauraynaud 2009: 7).

For our purpose, variants of this third claim are crucial. In *Aux bords de l'irréversible*, Chateauraynaud and Debaz provide such a categorization of expertise in the context of "chronic uncertainty" (Chateauraynaud and Debaz 2017: 126). In addition to the traditional "monologic" expertise, where experts deliver a report and, if requested, an advice or a testimony, four categories describe the new regimes of expertise quite well: (1) "Contradictory expertise", (2) "Collective expertise", (3) "Distributed expertise", and (4) "Participatory expertise". These categories do not focus on the person or the skills of the individual expert, but allow us to understand what expertise is in the context of radical ignorance and controversy; they all have a specific pragmatic texture.

How is that so? First, they point to collective behaviors, ways of doing, contexts of action. The first model refers to contradictory expertise, quite frequent in the legal realm, but also in public "arenas" and public debates: NGOs often provide this kind of counter-expertise. Social movements, in the context of "undone science", can unite in order to provide such kind of expertise. The second one, "collective expertise", has a different goal: articulating different skills and disciplines in view of a regulation. The main motive is not the conflict anymore (or not only) but the plurality of views and understandings of a complex phenomenon; it can be led by an agency, often after an environmental or sanitary crisis. The IPCC is one example, as well as the French Inserm Committee on Asbestos. The third one, as the name suggests, is distributed among labs, agencies, NGOs, and the goal is rather to explore different scenarios. The fourth one involves interactions between experts (in the classical sense) and citizens. The French *Consultation citoyenne sur le climat* (*Citizens' Convention on Climate*), gathering 150 citizens and experts, is one example.

This pragmatic emphasis also holds for the expected outcome of the process of expertise. Each form of expertise is better described by its expected result rather than by more formal features: a verdict or a decision, sometimes a policy, in the first case, and thus an overcoming and transformation of the initial conflict; a consensus, the formulation of norms and standards, in the second case; a plurality of visions of the future or of the object available for policymaking in the third case; trust in the last case, and possibly a revision of the distribution of epistemic authority.[25] That is why Peirce's pragmatist maxim would be of

[25] "This is undoubtedly what should be retained from this fourth model: its capacity to raise questions, alternatives or possibilities that the dominant actors, a fuzzy set that includes authoritative scientists, tended to dismiss out of hand" (Chateauraynaud and Debaz 2017: 131).

great help here: we use the same word, "collective expertise", to refer to quite distinct practical bearings, whether they describe the action undertaken or the practical outcome of the process.

We do not need to choose between the two approaches described in Sections 5 and 6. Pragmatism certainly involves substantial claims regarding Democracy and, except for specific contexts, the pragmatist model certainly allows for a better distribution of rationality overall, but if we think of public controversies, having a pragmatist understanding of what expertise models are doing, what kind of transformation they achieve, allow or promote, is certainly necessary to empower agents and allow them to enjoy a more lucid citizenship.

7. *Expertise on ignorance?*

A final area in which a pragmatist approach is valuable is, paradoxically perhaps, that of ignorance. In this last section, I shall proceed in two steps: first, by trying to show that there can be an expertise on ignorance, and not only on reliable knowledge, and secondly, by showing why a pragmatist epistemology is one of the best candidates to frame this kind of expertise.

"Ignorance studies", or even "Agnotology", to use Robert N. Proctor's term (Proctor and Schiebinger 2008), is now an established field of research in STS as well as in philosophy. It even has its own *Routledge Handbook* (Gross and McGoey 2015). If the idea of ignorance as an interesting subject-matter is by no means new (Ferrier 1854), the impetus for the more recent body of works was certainly given by Proctor in his *Cancer Wars*: as the subtitle of his book made clear, he explored "How Politics Shapes What We Know and Don't Know about Cancer" (Proctor 1995). Some research programs, focusing on the genetic predispositions to cancer (as in the Nixon Plan), could lead to overlooking its behavioral and environmental causes. In the context of limited time and means, any strong investment in research on one factor of a given disease or problem can result in more knowledge being accumulated about this factor and, conversely, to relative ignorance about the other factors. The idea was that, in addition to epistemology – the study of knowledge – and to sociology – the study of the social conditions and texture of knowledge –, we needed another line of inquiry, studying how and why we do not know what we do not know. In other terms, Proctor's agenda was to provide an account of the "cultural production" of ignorance, and he argued that ignorance was not only an epistemic state but also, in some contexts, an *effect*, whether its causes were structural, emergent or intentional. I have tried to show elsewhere that pragmatist theories of inquiry have allowed us to understand these processes: if inquiries are modes of action (actions under severe formal and methodologi-

cal constraints), some of the categories of action can be applied to them, *i.e.* failures, persistent failures and persistent failures caused by the actions and strategies of third parties (Girel 2017b).

Agnotological studies, or "Ignorance studies", soon became a platform and, in Proctor's case, this intuition provided the core of his monumental *Golden Holocaust* about the tobacco industry (Proctor 2011). Grounding his inquiry in the millions of pages retrieved from the internal archives of cigarette manufacturers, Proctor showed precisely how this industry was able to undermine otherwise reliable knowledge about the hazards of tobacco, thus "creating" ignorance in the public about them, putting pressure on biomedical research, on expertise, and even hiding some of the most worrying details to its own workers. This is only one of the possibilities for "ignorance studies": others have explored strategic ignorance (McGoey 2012), climate change denial (Oreskes and Conway 2010), "undone science" (Hess 2016), not to mention the understanding of scientific research as "thoroughly conscious ignorance". Let us admit, for the sake of argument, that ignorance can be an academic topic, common to epistemology, history and sociology of science. Can there be an expertise about it?

Recent history provides interesting examples. There are cases in which an expert must report on what is not known in a given field. Proctor is also an expert witness before the courts, and has been called upon in numerous lawsuits that have pitted tobacco companies against patients or families of patients. It is easy to understand why: in the lawsuits that opposed them to former consumers, tobacco companies often defended themselves by claiming that "everyone" knew that cigarettes were toxic, or addictive, but that "no one had any evidence" (Proctor 2006). The assumption was that smokers were responsible, since they had started and continued smoking knowingly, but not the tobacco companies, since there was supposedly no scientific proof of the hazard. Scientific expertise was then mobilized to trace who knew what and when, which became decisive in attributing responsibility. In this sense, there is therefore an expertise on ignorance, and by extension an expertise on the attribution of ignorance. I shall take just one example here, among numerous others. In a Canadian trial in 2012,[26] Proctor made it clear that knowledge about tobacco hazards can mean two different things: "[s]o the theory, as it developed by the historians working for the tobacco industry in the United States, was that everyone knew that smoking was bad for you – in other words, common knowl-

[26] All quotes from Proctor's testimony for Nov 28, 2012. *Cécilia Létourneau v. JTI-Macdonald Corp, Imperial Tobacco Canada Ltd. and Rothmans, Benson & Hedges Inc; Conseil québecois sur le tabac et la santé and Jean-Yves Blais v. JTI-Macdonald Corp, Imperial Tobacco Canada Ltd. and Rothmans, Benson & Hedges Inc.* <https://www.industrydocuments.ucsf.edu/docs/xmxh0225>.

edge –, but no one could prove it – in other words, expert ignorance. And this epistemology, you might say, is the most common that's put forward by historians who work for the industry". Although Proctor is in a better position to discuss what knowledge manufacturers actually had (and then to determine whether there was really such "expert ignorance"), the other side of the coin, "common knowledge" is also pivotal. "Common knowledge" can refer to what people were told, were aware of, or to what they believed, which is a different thing. In these trials, one bias among the historians working for the manufacturers was to exaggerate this "common knowledge" by interpreting every public bit of information as common knowledge. This is exactly what a historian expert can help clarify. About one expert, Proctor adds: "my criticism is that he really only looked at what people were told and not enough at what they believed". And then a bit further, about the mere circulation of information, awareness and belief: "I mean, awareness is in between, because it's fundamentally a marketing concept; it's a measure of exposure, not conviction. And that's why I object to the whole notion of awareness, it's vague. Does it mean 'were you told' or does it mean 'do you believe'?"

What does this have to do with pragmatism? We can see at once that the expertise does not only involve facts, but also doxastic states. Ultimately, the whole debate revolves around philosophical questions that were crucial for the doubt-belief pragmatist approach to inquiry: did the smokers have hypothetical beliefs, full beliefs, dispositions? How can we account for the distinction between the beliefs we profess and the beliefs we betray? There are expert reports on what people know, and what they do ignore, because knowledge is not only a cloud of information, it is a capacity. Knowing in the full sense involves using previous beliefs and information to ask questions, to extend one's knowledge, it involves the capacity to justify one's beliefs, to justify one's practical judgments, it is exactly what the pragmatists were trying to make clearer, and it is exactly what distributes responsibilities in this kind of trial.

8. *Conclusion*

In this paper, I have shown that pragmatism, and in particular pragmatist theories of inquiry, not only addressed the issue of scientific expertise, but also provided interesting tools to account for it, whether in court or in public debates. I have also claimed that the strong anti-skepticism of the movement could be a safeguard against careless criteria and, further, that a pragmatist account of meaning could cast light on the contexts in which these criteria are functioning. Telling which difference makes a difference, trying to "Make it explicit", to borrow Brandom's phrase, is one of the most enduring endeavors

of the pragmatist movement, and it is particularly needed here, as the debate has often focused on definitions, or on general forms of expertise, without exploring their practical background.

Scholarship, in recent years, has actively contributed to extending the pragmatist canon: Peirce, James, Dewey and Mead have been joined by many others, DuBois, Locke, Mary Follett and Jane Addams for the "classical period", and a wide variety of contemporary research from, say, Shusterman to Brandom, Price or Kitcher. There are groundbreaking pragmatist contributions in all walks of academia, from aesthetics to ethics and neurosciences. Having more pragmatist contributions on scientific expertise and others forms of applied knowledge would be a very useful addition. Public debates around scientific expertise raise philosophical, epistemological and practical questions, and if pragmatism were to remain silent on these questions, it would be a severe limitation of its resources.

Regarding scientific expertise, if what has been proposed is sound, it cannot be approached through the resources of one discipline only. Interdisciplinarity is often a very vague word used in answers to calls for projects, but in this case, it is strictly required. Without a dialogue with jurists, who are able to tell what a change in constitutional or legal texts will lead to, scientists from the field, who can tell what the most pressing questions are for them, and sociologists, who can provide the conceptualization and description of the social texture of expertise, a philosophical account of expertise will be incomplete and deficient.

Finally, regarding agnotology, we have seen that it made sense to make room for expertise about ignorance. Such expertise is not confined to the courtroom: there is robust research on "absences" in knowledge, on projects that were abandoned because they were at odds with social norms, on "undone science", science that could be developed with the resources we have but which is not developed until social movements ask for it. These are all cases of unintentional production of ignorance. The kind of abstract characterizations of science and scientific expertise we have studied above can contribute to unnecessary controversies and to a public distrust of science. Deciding whether they deserve their own chapter in agnotological studies is an open question.

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Expertise that matters.
On Dewey's understanding of relevant science

Antje Gimmler

Abstract: Expertise is much contested in modern democracies. In this article I shall investigate whether Dewey's understanding of science and expertise provides us with some answers about the interplay between science, the public and society. Decisive for Dewey's vision of the relation of democracy and science is that epistemic qualities and what he calls "organized intelligence" should contribute to find the best solutions for human wellbeing and growth. Science and expertise that can live up to this purpose are relevant from a pragmatic viewpoint. I shall suggest a reading of Peirce's pragmatic maxim as a test for relevance that can be used to conceptualize a pragmatic version of science and expertise in the public interest.

Keywords: Dewey; expertise; science; democracy; public sphere; C.S. Peirce; pragmatic maxim; fundamental and application-oriented research

> Mir ist es wichtig, dass möglichst viele Perspektiven aus der Wissenschaft in die Diskussion einfliessen. Nur so lässt sich der Eindruck eines wissenschaftlichen Sachzwangs vermeiden. Wir sollten mit der Fiktion einer einzigen wissenschaftlichen Wahrheit aufräumen. Die Corona-Krise bietet dafür eine Chance. Wir müssen sie packen, wollen wir vermeiden, dass Experten irgendwann als Schuldige dastehen. Zu dieser Aufgabe können die Geisteswissenschaften einen Beitrag leisten.
>
> Caspar Hirschi in *Neue Zürcher Zeitung*, 02.05.2020

Concerning the role of experts in the Corona-crisis of 2020, the Swiss Professor of History Caspar Hirschi brings forward a particularly interesting and sharp remark. He highlights that the recognition of plurality is essential to scientific expertise, not only because the empirical sciences do not just pro-

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duce 'one truth', but also because science[1] otherwise could become a public scapegoat if political decisions that are justified by scientific results turn out to be wrong. Although science advices politics with expertise and has effects on politics and policies, even more in a situation like the Covid 19 pandemic, Hirschi does not want to put the weight of responsibility for genuinely political decisions on the shoulders of science. The background premise of Hirschi is obviously that science, the public, and politics are in a more complex relationship than the idea of science as the value neutral source of expertise indicates. Hirschi also expresses the hope that the humanities could contribute to enlightening the role of experts and expertise in society. This is a hope that fits well with the visions of many philosophers. John Dewey and Jürgen Habermas, among others, both think that the interplay between science, the social sciences, and the humanities with the public are vital for both research and an open and critical public sphere, as well for an informed democracy in general. This positive role of science, the social sciences, and the humanities is not necessarily in contradiction to a critical evaluation of an elitist democracy that is governed by experts. Habermas argues that the rule of experts would undermine democratic legitimacy (Habermas 1987, Turner 2001). It is certain that the current Corona virus crisis minds us about what seems to be the promise of science, namely, to deliver control and foresight, but also to warn about the dangers of technocracy or epistocracy, as well as the necessary uncertainty that is part of a scientific and technological civilization.

In this paper I shall confine myself to investigating how the pragmatist philosopher John Dewey conceptualises how the role of science, the social sciences, and the humanities play their part in modern democracies and how expertise is situated within this interplay. Decisive for Dewey's vision of the relation of democracy and science, social sciences, and the humanities is that epistemic qualities (Anderson 2006) and what he calls "organized intelligence" (Dewey 1935: 56) should contribute to find the best solutions for human wellbeing and growth. However, current conditions of academic knowledge production as well as a general mistrust in the effect of information and knowledge on politicians and citizens equally are developments that contribute to scepticism about Dewey's ideals about the interplay between science, the public, and society. I have two aims in this article. Firstly, I want to show that Dewey's conceptualisation of science actually is able to meet the challenges that are the result of a transformed research landscape. Secondly, for Dewey's understanding of sci-

[1] I acknowledge the difference of disciplines when I use the phrasing "science, social sciences and humanities". In this phrasing, science in singular refers to natural sciences. Otherwise, I use the terms science and sciences generic and synonymous with "all different sorts of sciences, including also the social sciences and humanities".

ence and its contribution to democracy, the notion of relevance is paramount. I claim that relevant research is a necessary condition for good expertise. These two aims are intimately connected and I shall pursue them with the following steps. I shall first unfold two issues of the current context of expertise in society: the idea of democracy as epistocracy or technocracy (e.g. Brannan and Runciman) and the principles that are at stake since knowledge production and the sciences are more and more under the pressure of practice. In the second part, Dewey's idea of what constitutes expertise in relation to democracy and the public is investigated. For Dewey, science, the social sciences, and the humanities could and should orientate towards societal problems. This leads to the question: how can science, the social sciences, and humanities be problem-oriented without being instrumentalised by partial economic and political interests? From a pragmatic point of view the answer is that it all depends upon science and research that is relevant. Pragmatism holds a specific understanding of relevance that differs from mainstream philosophy of science and research logic. In part three I shall explore the pragmatic understanding of relevance and draw upon Peirce's pragmatic maxim to elucidate the pragmatic concept of relevance. The result will be that relevant research is research in the public interest, an interest that Dewey thinks is inherently part of the research process and not the result of partial interference from outside.

Before starting this investigation, a clarification of the terms expertise and expert will be useful. A preliminary and heuristic definition that fits our purpose to explore Dewey's understanding of relevant research and expertise for society will have to do in this context. The terms expertise and expert are part of a broad semantic field that spreads from social epistemology to philosophy of science, philosophy of technology, sociology, and political science. If an expert is someone who has great skills or knowledge in a particular field, and if this is the reason why the expert is able to provide this knowledge on a particular matter for others, two questions arise: the epistemological question of how great skills or knowledge are defined and the question whether the expert is trusted because of her knowledge or whether there are other reasons, such as status or reputation.

First the epistemological question: one version of understanding expertise is veritistic, meaning that an expert is defined by having true knowledge; it is truth that confers authority to the expert (Goldman 2001). However, experts make mistakes; knowledge is for many reasons fallible. It has to be highlighted that fallibilism is not a striking argument against truth orientation. It is rather a warning about the principal limitations of knowledge. But still, the question remains whether or not we can be certain about the truth of expert knowledge, and this uncertainty opens the door to scepticism about science as such. The

veritistic approach has been criticised for not being able to cash out the criteria for when expertise is true (Watson 2018).

The question about there being reasons other than knowledge and skills for being an expert leads to a more sociological understanding of expertise and the expert. Then, "being an expert is a reputational phenomenon" (Goldman 2018: 3) and practical skills like being able to explain complex facts to the public are equally relevant than having knowledge (Collins and Evans 2007). This opens up a difference between expertise and science: being a scientist (having knowledge and skills) is not sufficient for being an expert (cf. Barrotta and Gronda 2019: 24). Experts need to be trusted and credited for their knowledge. However, expertise would become a "vague and fluid" term if it is only up to the public to designate experts and define what expertise is (Goldman 2018: 6). Interests, power, ignorance, all sorts of other conditions can play a role when expertise is defined from outside the sciences and academia.[2] Although this is a principled problem that cannot be avoided in the encounter of academia with politics and the public, the conclusion that it is only up to the public or politicians to decide what counts as expertise is also wrong for a very simple and more practical reason: expertise builds on credibility. Expertise that turns out to be wrong discredits the institution and the experts behind the expertise in the long run. I shall not pursue the problem of trust and credibility directly in this article. Indirectly however, the credibility of research is a subject of the projected conceptualisation of a pragmatic understanding of expertise. More precisely, what is to be shown is that from a pragmatic point of view credibility would be based on the commitment of a research institution to the rules of science, to epistemic qualities, and its role within a citizenry.

What we need for the purpose of this article is a view on experts and expertise that articulates the scientific criteria to distinguish knowledge from opinion, that takes the practices of science, the social sciences, and the humanities seriously, but that also is sensitive to the role of expertise in society. Watson is concerned with the two first elements: "the strongest instances of expertise require a community of epistemic authorities to help confirm, disconfirm, and refine claims made by the putative expert" (Watson 2018: 41). Without a self-correcting scientific community that applies principles for valid and sound research, such as methodological rules, expertise cannot gain legitimate authority. The expert's understanding of "a substantial proportion of the terms, propositions, and arguments" of a particular subject matter or field is thus

[2] One has to add that these conditions also play a role inside of academia, although here are also different measures (scientific methodology or peer review for example) available that take counter measures of the effects of these conditions.

'tested' by procedures of justification within the scientific community (Watson, 2018: 46). Barrotta and Gronda have convincingly argued for the third element to include into definition of expertise. They highlight how expertise is dependent upon the public and call this the "relational nature of expertise" (Barrotta and Gronda 2019: 22). Expertise also needs to be accepted for its authority by the public – an acceptance that does rely also on other factors than inner scientific standards. Only if expertise is trusted can it fulfil its function. I will come back to this topic with Dewey's understanding of the relation between the public and science.

This leads us to a minimal conception of expertise that, as we will see later, provides a good starting point for the pragmatic understanding of expertise. Expertise then comprises of knowledge and skills that have been achieved according to the rules of science (including those of the social sciences and humanities) as well as been questioned and tested (according to the rules of science, social sciences, and humanities) within the scientific community and within a public with the assumption of a general orientation towards truth-seeking. Here, truth-seeking is understood in a broad way without commitment to a specific theory of truth. As Cheryl Misak puts it, truth-seeking is the attempt to "getting things right" (Misak 2011: 472); an orientation committed to epistemic qualities and to settling disagreement by investigation, testing, and deliberation. This kind of 'getting things right' also includes different types of knowledge, such as local knowledge, as so far as it can be dealt within and inform the more strict framework of science.

1. *Setting the stage: Science under pressure and the prospect of epistocracy*

Unsurprisingly, experts and expertise are important for modern societies, as modern societies are knowledge-based societies (Stehr 1994). That expertise exhibits significant power in modern societies and influences politics and policies is not always seen as a valuable partnership. Expertise has been contested by the public. This is the topic that Tom Nichols presents in his book *The Death of Expertise* (2017). He diagnoses a broad ignorance in the US public allied with a distinct disgust for experts and elites. There is no longer a respectful exchange between the public, politicians and the experts, and Nichols is therefore concerned that the distrust in expertise puts democracy in a dangerous situation. Another characteristic of what has been coined knowledge society can be found in the fact that the lines between science and society are getting blurred and a new realm occurs, which the sociologist Gil Eyal calls "trans-science" (Eyal 2019: 142ff.). This is a realm where facts are mixed with

values and the public debate takes place with very different stakeholders, interests, and criteria. Another development that changes the role of expertise in society has been called into attention by John Ziman (Ziman 2002). According to Ziman, research institutions and universities have undergone dramatic transformations in the last 50 years, resulting in a "post-academic research culture dominated by instrumental values" (Ziman 2002: 399). If this is correct, expertise might not be able to represent the necessary knowledge to inform the public anymore. Expertise and how science is related to politics, the public, and society is indeed a complex affair.

Looking at the crucial function that science and research occupies in modern knowledge-based and technological societies, these changes in research culture that I have mentioned briefly are of great importance. On the one hand, science, the social sciences and the humanities are expected to deliver expert knowledge for all realms of society. To fulfil this task, one would think expertise has to be neutral to partial interests. Robert Merton's CUDOS norms capture this classic understanding of science.[3] On the other hand, universities and public research institutions in most countries have changed tremendously. They are more and more orientated towards the labour market and economic success. The autonomy of research institutions and universities has come under pressure. Commercialisation of research and education is not the exception anymore but is built into the new management structure of universities. This transformation has also been delineated as the development of research from knowledge modus 1, which stands for the classical fundamental research model, towards modus 2, which is based on applied research and knowledge oriented towards public and social impact (Nowotny, Scott and Gibbons 2001). Can this new type of universities and research institutions provide the sort of expertise that is necessary for societies? I cannot address this question directly in this article. However, the pragmatic concept of the relation between science, the public, and democracy should be able to give some hints in this direction.

Before looking into the issue of a possible loss of epistemic qualities of expertise because of application-oriented research and science, I shall first turn our attention to the opposite position, namely that expertise is valued very highly and should not be reduced to an advisory function. This is a position held by Jason Brennan (2016) and Garett Jones (2020) for instance, a position that has a predecessor in Walter Lippmann's critique of the public sphere in 1922 (to which Dewey answered with his book on *The Public and its Problems*).

[3] CUDOS stands for: communality (common ownership of intellectual property), universality (scientific validity independent from context), disinterestedness (science for the purpose of science and not for other interests) and organized skepticism (institutionalized procedures and methodologies for critical scrutiny of scientific claims), see Merton 1973.

As Lippmann does, Brennan and Jones claim that not only does democracy need experts but also that they should have a greater say in politics than the common citizen. Brennan's and Jones' critique of contemporary democracies leads to a new role for expertise. According to their diagnoses, common citizens are not what they are ideally supposed to be, namely informed and interested in open deliberation, which includes the possibility to be convinced and to convince others as well as accepting dissent even about issues that involve deep beliefs. In Brennan's words, citizens are Hobbits (not interested in issues of public relevance) or Hooligans (non-pluralistic minded even when liberals), and only very few are Vulcanians (rational and analytic). Vulcanians are able to evaluate issues rationally, able to deliberate, and are susceptible to reason. Already John Stuart Mill has thought that a weighted vote could be a solution for what he saw as the unhealthy dominance of the uneducated and disinterested (Mill 2010). For Mill, the right to vote included a learning process of citizens, so that in the end they could become more Vulcanian. Both Brennan and Jones do not think that this is realistic. On the contrary, Brennan argues that voting does not make us better citizens in terms of being able to see things from the perspectives of others; rather, elections make us more stupid and polarize political and other value positions even more (2016: 7). Another effect of elections is, as Jones points out, a certain short-termism (Jones 2020). Politicians only feel responsible for results visible within the period elected and not for long-term results of their politics. Experts seem from Brennan's and Jones' viewpoint superior to such mundane classical biases as gender, race, age, or personal interests. Brennan favours an epistocracy, where those who have better and more intellectual qualities have more right to say. Basically, Brennan and Jones argue that political decisions should be at least partially replaced by expert decisions, a replacement that already Lippmann has suggested with his intelligence bureaus (Lippmann 1922).

David Runciman in his somewhat pessimistic book *How Democracy Ends* (2018) also diagnoses that experts as well as technocrats are an important part of democracies. However, he is critical about Brennan's suggestion of an epistocracy. In the first place, Runciman argues that experts have already taken over in the form of the administrative machinery that reduces the choices politicians and citizens can make. The administrative system exhibits power that cannot be questioned anymore. Runciman obviously thinks more in the line of the sociologist Max Weber, who saw the dominance of bureaucracy and administration as the biggest and most devastating threat to democracy (Weber 1972: 570). Secondly, Runciman refers to social science studies that show that "cognitive biases are no respecters of academic qualifications" (Runciman 2018: 184). Experts are not necessarily fitter at withstanding e.g. confirmation

bias and are thus no better at making good or moral decisions than the layman. The collaboration of German scientists and scholars with the Nazi-regime from the very beginning is a case in point (Kuhn 1966). Whether expert decisions should replace political decisions cannot be justified with their cognitive or moral superiority. Runciman also points to the technocracy that is luring behind an epistocratic model of democracy. It is the IT architecture, algorithms, reputation systems, and the likes that select which information the citizens have access to.[4] From this perspective, the solution is not to give more power to experts but to make experts' power more transparent.

The next background issue for the conceptualisation of a pragmatic understanding of expertise is the transformation that universities and other public research institutions have undergone in the last 50 years. "If science is left at the mercy of politicians and corporate leaders," the philosopher of science Martin Carrier states, "its commitment to truth is feared to be traded for its capacity of intervention" (Carrier 2011: 12). What he expresses here is a concern about a possible lack of epistemic qualities, of objectivity, and of scientific rigour if research is directly oriented towards utility and purposes which are external to the sciences. To pursue this concern, Carrier distinguishes two types of science orientation, not unlike modus 1 and modus 2 of (Nowotny, Scott and Gibbons 2001), and investigates the differences between these two approaches regarding for instance epistemic qualities, problem selection, research freedom, and accountability. The first type of research is epistemic or fundamental research. Fundamental research is knowledge-driven in its problem selection; science is guided by the metaphor of deciphering the book of nature. The other type of research is application-driven research which has the purpose to be useful and oriented directly towards the implementation of the research outcome. Application-driven science is not guided by understanding but by intervention. Science and research, according to the fundamental model, only follow their own interests, which is the epistemic interest for knowledge. Selection of the research problem, choice of methods, theories, and technology are subordinated to the field of knowledge – be it called episteme (Foucault), paradigm (Kuhn) or research program (Lakatos). A good example for the ethos of fundamental research is the rejection of "Cesar Milstein and Georg Kohler, after

[4] To investigate in depth the role of the internet for expertise is not in the scope of this article. Whether the IT architectures or the sheer abundance of data and information on the Internet, or, a combination of both, contribute to the venomous non-culture of discussion that could be found on the Internet and other media today, is a difficult question. However, it is clear that the internet changed, at least in the public eye, what counts as expertise and how to get access to expertise – not to talk about the well-known however mislead belief that a Google search instantly turns us into an expert of the search issue (Nichols 2017: 105ff.).

the discovery of monoclonal antibody-producing hybridoma cells" to obtain a patent for their research, "arguing that it was inappropriate to control exclusive rights to a potentially life-saving discovery" (Bok 2003: 140). While commercial interests as an external influence are not well respected in fundamental research, another factor, that traditionally also has been seen as external to science, is now an integrated part of research. Research ethics have become an integrated part of fundamental research as well as application-driven-research.[5] Research ethics regulates science and research and it is legitimate to ask for accountability of research. Although an integrated part, the relationship between research and ethics is not always a harmonious one. In contrast to fundamental research, patents are important in application-oriented research. The economic interest is often directly coupled with the interest in knowledge. Ziman claims that application-oriented research – or, as he calls it, "instrumental science" (Ziman 2002: 397) – is "proprietary rather than public", and in general prone to corruption and conflict of interests (Ziman 2002: 399). In extremis this would mean that expertise, that is the result of application-oriented research, delivers the result the customer, be it politics, the economy, or the public, has ordered.

However, things are not as clear-cut as they seem. Carrier outlines in a convincing way that contrary to the understanding of pure science and fundamental research, "the promise of utility was part of the scientific enterprise right from the beginning, and it is this entanglement of knowledge and practice which underlies application-driven research" (Carrier 2011: 17). Perhaps not surprisingly, fundamental and application-driven research differ little when it comes to epistemic qualities such as accuracy or consistency (Kuhn 1977). However, application-driven research is limited to defined purposes and therefore might not develop theories that can be applied to a broad scope of subjects (Kuhn 1977). Other epistemic qualities that Kuhn names are creativity and innovativeness. Application-driven research allegedly lacks these qualities because it focuses solely on functionality for a defined purpose. Albeit these qualities are often treated as if a theoretical analysis can decide whether fundamental or application-driven research is more or less innovative, actually it is also an empirical question. Carrier concludes that there are examples and counterexamples for creativity and innovativeness for both types of research. He can be backed up by studies in the field of practice-oriented philosophy of science (e.g. in the work of Joseph Rouse) and in Social Science and Technology Studies (SSTS). Both have shown that the alleged purity of science exists only as a narrative to a great extent, and that in reality practices, values, and tech-

[5] The role of research ethics in the EU research programmes is a case in point (see: https://ec.europa.eu/research/participants/data/ref/fp7/89888/ethics-for-researchers_en.pdf).

nologies play a tremendous role on every level of the research process. While application-driven research and science "does not suffer, in general, from a loss of depth, credibility or creativity" (Carrier 2011: 27), one could however assume some probability that application-driven research and science is more vulnerable to biases. The question is whether this is genuinely a problem of the practical purpose or rather of the commercial funding of application-driven research. A different type of research, one that commits itself to usefulness and problem orientation without allying with commercialisation, could be an alternative.

In a remark, Carrier refers to Sheldon Krimsky's book *Science in the Private Interest* (2003) in which the author criticises the commercialised universities, saying that they do not work anymore for the "betterment of society" (3) but being dominated by partial, mostly economic interests. A possible third type of science and research, not in private but in public interest, would be an alternative from Carrier's perspective.[6] What would be decisive for this type of research is to be problem-driven however, neither automatically accepting the definition of a purpose brought forward by companies or politicians, nor falling back into inner-disciplinary problem definitions, thereby being in danger of placing science in an ivory tower. Barrotta and Gronda (2020) also point to a third type of research, one that takes place in a "community of inquirers" (Barrotta and Gronda 2020: 91) and is bridging the gap between laypeople and scientific experts. Also, Barrotta and Gronda point to Dewey as a possible inspiration for such a third type of expertise, which underpins my claim that Dewey had science and research of this kind in mind.

This first part has the function to present two major background problems that need to be addressed in order to evaluate if Dewey's conception of science, the social sciences, and the humanities today still provides us with answers to the question of which role science and research should play in a well-functioning and thriving democracy. The suggestion of Brennan and Jones to put expertise and experts in the centre of power of democracies is a radical response to the crisis of the political culture in Western democracies. However, the crisis is not entirely new. When Dewey wrote in 1927 *The Public and its Problems*, he also talked into a crisis of democracy and drew a different conclusion. From the short investigation into the consequences of the transformed landscape of science and research that I have undertaken in this part, I conclude that application-driven research is not necessarily a problem for the epistemic quality and credibility of research. I argue that we have to look for

[6] Another philosopher to consult on this topic would be Philip Kitcher who has worked on the topic of the relation between science and society, e.g. Kitcher 2011.

an understanding of science and research that is both problem-oriented and in the public interest. This would also give us a better understanding of the function of expertise.

2. *Democracy and science*

In this part I shall focus on the relation between science, society, and democracy in Dewey's philosophy. I shall first give a short description of Dewey's understanding of democracy before discussing the role of science and expertise. Dewey claims that democracy and science have similar structures regarding their form of organisation (cooperation), procedures (experiment), and goals (enrichment of experience, wellbeing). The public sphere takes a special role; it constitutes a link between the specialisation of research and society as a whole.

For Dewey, democracy is a way of life and a form of society, "the idea of community life itself" (Dewey 1991: 148), and not merely an institutional arrangement that builds the framework for popular sovereignty. Democracy is, in the words of Axel Honneth, "a reflexive form of community cooperation" (Honneth 1998: 765). In Dewey's philosophy, democracy is also a method as he outlines for instance in his article on "Liberalism and Social Action" (Dewey 1935). Science and democracy share a fallibilistic and experimental attitude. Both claims together, the reflective way of life-claim and the method-claim, make democracy, in Dewey's understanding, much more than political democracy. Contrary to some philosophers, who interpret Dewey's concept of democracy as ethical (see e.g. Bernstein 2010, Pappas 2008), Frega argues convincingly that democracy grows from social relations and sociality (Frega 2019). Dewey's understanding of democracy is social and neither predominantly political nor what traditionally is called ethical. Cooperation is the form of sociality that Dewey thinks builds the foundation for society. I shall first examine how democracy is a reflexive form of cooperation before exploring democracy as a method and thereby elucidating the intimate connection between science, the public, and democracy.

In *The Public and Its Problems*, Dewey says that democracy "must affect all modes of human association, the family, the school, industry, religion" (Dewey 1991: 143). In this understanding democracy enables human beings to flourish and to develop their capacities on every level of society. This happens through cooperation and interaction, activities that form the principles of Dewey's social ontology. Communities are networks and agglomerations of human beings, and their interactions, which, becoming stable, establish habits and traditions. There is, however, no real stability in communities nor

is there in democracies. Societies are under constant development and have experienced an acceleration of transformation in modernity. This emphasis on transformation and change is also the reason why Dewey's idea of democracy, although he sometimes takes residue in the language of organisms,[7] is not anti-modernistic or nostalgic. Democracy is a reflective way, and Dewey argues that it is the best way, of organising these interactions and transformations. Reflection upon the organisation of cooperation is situated on different levels of society. For example, in the public the reflection is in the open and takes place in forms of debates and discussions. The same goes with a more disciplined agenda, for the parliament and its institution. The result of this view is that democracy is seen as a form of reflexive organisation that performs experiments in trying to find the best organisations for the common good and the individual's wellbeing. The emphatic praise of democracy that dominates Dewey's writings should not hide for the fact that democracy for him is the reflective organisation of power and its institutions as well as lived experience, norms, and values. Self-correction and the use of collective intelligence is central to democracy: "[f]or what is the faith in democracy in the role of consultation, of conference, of persuasion, of discussion, in formation of public opinion, which in the long run is self-corrective, except faith in the capacity of the intelligence of the common man to respond with commonsense to the free play of facts and ideas which are secured by effective guarantees of free inquiry, free assembly and free communication" (Dewey 1939: 227). According to Dewey, public debate and free communication, in form of an academic community, a political body or the broader public, are the link that keeps democracy, its citizens, and science connected. Dewey's theory of democracy aims to improve the practices of the democratic community with the use of a vital public sphere, on the one hand, and scientific methods, on the other. If the public sphere is not in good shape, if it is fragmented or purely driven by partial, e.g. economic, interest, then 'free communication' is endangered and democracy will suffer. The same goes for a public where no appropriate framework is available to form an intermittent public focus on a matter of concern. The public, as Dewey has put it, has "not located and identified itself" (Dewey 1991: 182), it has yet not come into existence in its potentially powerful way. This lack of the public is the subject of Dewey's book *The Public and its Problems* (1927). Publicity, transparency as well as accountability are principles that can be traced down in Dewey's idea of a vital and functioning public (Dewey 1991: 166ff). These are principles that also are constitutive for how science functions.

[7] For example, Dewey 1991: 152.

Democracy is not only a form of government and a form of life but also a method according to Dewey (see also Frega 2019). This brings me to the second topic, i.e., the intertwinement of democracy and science. The statement as such sounds rather surprising; why and how could democracy be a method? Dewey gives a historical and structural argument when he says that democracy is able "of generating science which is the sole dependable authority for the direction of further experience" (Dewey 1939: 229). If democracy is a constant process of transformations and changes, of adjustment to new situations and demands, then science and the method of inquiry guide these changes and processes in a controlled way – in order to lead to 'further experience'. However, Dewey's idea of democracy as method is more radical. It is the idea that "organized cooperative inquiry" (Dewey 1991: 51) and "organized intelligence" (Dewey 1991: 56) are processes that govern both science and democracy. That this is a cooperative endeavour already signals that Dewey is not thinking about the classical model of science that authoritatively informs the public and politics. Organised cooperative inquiry can only be brought to life with an active, involved public that has a right to free speech.

It all depends upon how Dewey conceptualizes inquiry. Inquiry is not just a form of guided procedure to find measures to solve a given problem. Both problem definition and solution are part of broader contexts. Inquiry of this form transgresses boundaries between facts and values. Social reform that is informed by social inquiry is normative, checking consequences and its values at the same time, as Henrik Rydenfelt highlights. He points to the fact that in Dewey's understanding of inquiry "the standards of justification are themselves explicated, questioned, revised and determined" (Rydenfelt 2020: 34).

Among the merits of science is the ability to scrutinize critically its own presuppositions. Another one is its transparency. Only with overt action and with experimentation (mostly in the natural sciences), with hypotheses and testing within a scientific community knowledge can be corroborated. The next merit is one Dewey never refrains to highlight. The scientific method is defined by the use of experience in an experimental way in order "to have a new empirical situation in which objects are differently related to one other, and such that the *consequences* of directed operations form the objects that have the property of being *known*" (Dewey 1929b: 70). In Dewey's conceptualisation of the research process or inquiry, the starting and end point are most important. The researcher starts from an indeterminate situation (unknown, uncertain) in order to end with the resolution of the indeterminate situation, to reach knowledge and thus a determinate situation. Knowledge is operational in the sense that it is able to prescribe actions. Dewey thinks of knowledge as linking theory and practice. There seems to be a plausible connection between

knowledge and possible consequences if we take, as an example, a software programme that has been developed to solve a problem. The consequences of using the software programme are part of the knowledge the programme represents and are predictable (within certain limits). Knowledge in the social sciences and the humanities does not rely upon experimentation nor intervene directly, contrary to engineering and application-oriented science. Therefore, we usually do not include consequences as part of knowledge in the social sciences and humanities.

Dewey does not recommend the "assimilation of the human sciences to physical science" (Dewey 1991: 199), however, he is radical in his demand for the application of a sense for consequences. For the social sciences he names three criteria they should live up to in order to be fit to guide social reform and to deliver the expertise that is relevant for society:

> In fine, problems with which inquiry into social subject-matter is concerned must, if they satisfy the conditions of scientific method, (1) grow out of actual social tensions, needs, 'troubles'; (2) have their subject-matter determined by the conditions that are material means of bringing about a unified situation, and (3) be related to some hypothesis, which is a plan and policy for existential resolution of the conflicting social situation (Dewey 1938: 493).

The first criterion addresses the research situation. It is the researcher's task to not narrow down the subject of research beforehand but to be aware of the richness of the indeterminate situation (cf. Gimmler 2018). The first criterion tells the researcher to think about the context of problem definition, and consequently about the application of the solution. The second criterion refers to the research process proper and to logical reasoning, turning the indeterminate situation into a determinate one, highlighting that without an "idea of an end to be reached, an end-in-view" there would be no guidance how to distinguish relevant from irrelevant data (Dewey 1938: 491). If research had lost its guiding problem definition it would lack the self-correcting ability of science and is plodding along with either idealistic prejudices or blind empirical data collection.

His critical evaluation of the social sciences and the humanities has not lost its sting today. His recommendation for the reconstruction *in* philosophy is indeed radical: "pragmatic philosophy means that philosophy shall develop ideas relevant to the actual crises of life, ideas influential in dealing with them and tested by the assistance they afford" (Dewey 1917: 43). In other words, what is needed are social sciences and humanities that not only think of research, but also operate as interventions. To say it in the terminology of Carrier: the social sciences and the humanities are used to a self-understanding

that is shaped according to the model of fundamental research. Should the social science and humanities become more interventionist and application-oriented, and more engineering-like? I have to admit that this part of Dewey's reconstruction of the social science, the humanities, and philosophy is difficult to conceptualise. Research in the public interest is a third type trying to avoid the alternative between fundamental and application-oriented research. Could the social sciences and humanities use intervention in the way Dewey had in mind with an emphasis on transparency and public debate, thereby avoiding that research becomes private property or the subject of partial interests? There are numerous questions and problems related to this understanding of science in public interest – not least a change in research politics and funding. These are questions that lie outside of the scope of this article, however, a contemporary pragmatic vision for the role of science and expertise could include an emphasis on trans- or interdisciplinary research because it moves the attention from discipline-orientation to problem-orientation (see for example Frodeman 2014). New developments in citizen science methods could also be a viable way of doing research (Riesch and Potter 2014). What Dewey adds to our understanding of the functioning of science is a kind of loop that connects practices as a starting point for research with the theories, concepts, and procedures employed to answer the initial problem *and* the consequences this knowledge implies for practices. This loop-like model of research and knowledge constitutes a necessary condition for relevance in Dewey's philosophy of science and democracy.

3. *Expertise that is relevant*

Relevance is not a topic discussed much in philosophy of science or research methodology, at least not explicitly. An exception is Denscombe's book *Ground rules for good research* (2002). He names four types of relevance.[8] Research is relevant because of the subjective motivation of the researcher, its timeliness, its contribution to existing knowledge, and because it meets practical needs (Denscombe 2003: 45-49). The first two types are not good candidates for relevance for obvious reasons: a research topic that would merit the researcher's career is relevant to the researcher, but not necessarily for society in a broader sense. Timeliness is difficult to grasp, and who even decides what is timely research? The two next types seem to be more promising. Accumulation of knowledge and puzzle-solving describe a way of defining relevance that stems from inside

[8] I discussed these four types of relevance in more detail in Gimmler 2020.

of the academia. In fundamental research this model is dominant. Its hallmark is value-neutrality, and this is also its weakness. If relevance is purely dependent upon the accumulation of knowledge, then science is not only neutral to external conditions but possibly not able to address what are matters of concern in society. At least, inner academic relevance cannot be the only criterion for relevant research. The last criterion sounds as if it is close to Dewey's vision of science. The ideal of relevance as meeting practical needs seems to bring academic skills to public problems. However, who defines practical needs? As a general orientation the criterion of needs of society points into the right direction. However, society is a rather broad category and some specification is needed upon how relevance is decided in the interplay between science and society. The formula 'practical needs' hides that these practical needs have to be brought to attention, be formed, and be proceeded. As I already have outlined, Dewey thinks of a well-functioning public as an arena where subjects and topics that are matters of general concern are formed and debated, thus becoming part of research, political decision, and possibly of social reform. A model of the public sphere as Habermas has introduced in his theory of democracy and state of law could be a promising starting point to investigate in depth and to understand how knowledge is distributed and flows between different realms of society in order to keep a public and a democracy alive (Habermas 1998).

The researcher who finds herself in a genuine research situation still has to make decisions regarding which research question is relevant to follow. In relation to the discipline of philosophy, Dewey asks for "a criterion which would enable one to determine whether a given philosophical question has an authentic and vital meaning, or on the contrary, it is trivial and purely verbal; and in the former case, what interests are at stake, when one accepts and affirms on or the other of two theses in dispute" (Dewey 1925: 8). My suggestion is to read Charles Sanders Peirce's pragmatic maxim as such a criterion.[9] The core of the pragmatic maxim consists of a method to understand the meaning of a concept. We know the meaning of a concept if we know what consequences we can expect if the hypothesis about possible characteristics of the object in question is tested in reality: "[c]onsider what effects, that might conceivably have practical bearings, we conceive the object of our conception to have. Then, our conception of these effects is the whole of our conception of the object" (Peirce 1935: 402). Instead of merely reflecting about these propositions as such (with deductive logic e.g.), we should start by making hypotheses that are prescriptions for testing and by looking for the consequences of the chosen

[9] For a more detailed interpretation of the pragmatic maxim as a test for relevance, see Gimmler 2020.

propositions. These prescriptions lead us to the possible effects the object of our concept has, and specifically to those effects that 'conceivably have practical bearings'. Usually we can test for direct effects an object has. However, this is not straightforwardly possible for what Peirce calls "practical bearings". It is only on the background of well-chosen hypothesis that effects and possible practical bearings become visible. If we have found the effects that have practical bearings, then 'our conception of these effects is the whole of our conception of the object', and we also have found out which research question (hypothesis) is relevant. Peirce chose the diamond as an example and hardness as its property, thus using a hypothesis that tests for the effects of hardness. These effects, as it turns out, have practical bearings, they make a difference to how diamonds act in relation to other material. The diamond has different practical bearings from, let us say, a lump of amber (which is soft).

As I have outlined elsewhere, "while Peirce used the pragmatic maxim to clarify the meaning of a concept, we use the pragmatic maxim to clarify what kind of research is relevant and which is not. The preliminary answer is: There are good reasons to call research that consists of hypotheses that looks for effects with practical bearings relevant research" (Gimmler 2020). Research is relevant because the practical bearings put us in a situation of uncertainty. In terms of relevance, only those subjects are fruitful research subjects that can lead to hypotheses that have effects in reality which have practical bearings: "[i]f a belief has no consequences – if there is nothing we would expect would be different if I were true or false – then it is empty or useless for inquiry and deliberation" (Misak 2013: 30).

There are several implications related to this use of the pragmatic maxim to clarify the question of relevance of research and I shall only look into those that are closely related to the problem of expertise. The first implication deals with the necessary uncertainty that is connected to research and, therefore, to expertise as well. The reason to start a research process is lack of knowledge, the situation has to be an indeterminate situation. It is important to acknowledge that the research problem is neither unmediated nor directly present in the indeterminate situation. However, what is clear is that the situation has to be one of real doubt. Only real doubt "prompts real inquiry" (Haack 2018: 214). The sign for a real inquiry is that it has practical bearings. An expertise that does not refer to those practical bearings would, from Peirce's and Dewey's viewpoint, be shallow and hollow, not contributing with knowledge that fits to the situation.

This brings us to the second implication, to the notion of 'practical bearings'. While we are not always able to experiment, a viable way to adopt the experimental attitude is to think of knowledge as necessarily leading to practical bear-

ings. Case in point are the broader consequences of certain technologies. The PID (preimplantation genetic diagnosis) has not only the effect of producing a child, but more broadly, has difficult to grasp consequences. As a matter of fact, these consequences are unknown and uncertain. To understand PID properly then includes the inclusion to investigate these uncertainties. This cannot be done without considerable knowledge about the context where the possible effects are played out. To know what PGD means invokes technical, social, and ethical dimensions, and affords starting to think about possible practical bearings that the effect of this technology might have. It then becomes clear that it is the practical uncertainty of how this genetic selection of an embryo would affect our morality and self-understanding as human beings and society that makes an investigation into this technology relevant. To make this point clear: mere uncertainty concerning a technology, a concept, or a model as such is not a guarantee for relevance. But practical uncertainty of known effects is a clear indication that research has met a problem that is of relevance for both science and society. As Habermas also argues, the truth of inquiry "is not derivable merely from logical rules of the process of inquiry, but rather only from the objective life context in which the process of inquiry fulfils specifiable functions: the settlement of opinions, the elimination of uncertainties, and the acquisition of unproblematic beliefs – in short, the fixation of belief" (Habermas 1987: 119). We can infer that irrelevant research has no practical consequences in the context of real life and society. For expertise, the general uncertainty connected to research means that we have to live with the fact that no expertise can give us 100% certainty. What expertise is able to give us is a fuller picture of the possibilities of reality, informed decisions that rely upon the known relation between measures and ends-in-view.

Another implication of the pragmatic maxim that fits well to Dewey's understanding of reconstructed science, social sciences, and humanities lies in the simple fact that researcher can fail and error. Fallibility "can only be corrected by the work of the whole ongoing community of inquirers" (Haack 2018: 214). I have already briefly mentioned new forms of doing research that are developing the traditional collaboration of researchers within the scientific community even further. Interdisciplinary research, citizen science research, or collaboration with citizen organizations, such as in action research (Bohman 1999), are possible new forms of research that could be interpreted as taking relevance of research in the pragmatic sense as a guideline. Expertise never comes in singular. Where there is expertise there is also counter-expertise. From a pragmatic standpoint this is not problematic per se. Dewey would argue that dogmatic and absolutistic understanding of knowledge does more harm than the pluralism of well-performed inquiries.

4. *Conclusionary remarks*

The result of this investigation into expertise by looking into the background conditions for research today and into Dewey's and Peirce's approach to relevant research could be formulated as follows: research and science in the interest of the public have to be in exchange with the public, and at the same time hold on to the scientific principles such as methodological transparency, theoretical and conceptual consistency, testing, and corroboration. Science and research should be part of society and the public sphere. Dewey's argument is radical. He claims that only science in public interest results in 'true' science, in science true to the principles of the scientific method. The expertise stemming from the interplay between science and society is then a proper instrument to guide the ongoing transformations in a democracy. If Dewey had defined what relevant expertise is, I think he would have emphasized two characteristics. The first one I have just mentioned, that knowledge should be instrumental to society and democracy in the way that it guides the transformations all social and political entities undergo. The second one has to do with the method of science. Its characteristics are the controlled intervention of conditions in order to test hypothesis and to know more about the practical bearings of the subject matter of research. This can be done in experiments, in thought experiments, in reasoning, and many other methods, for example inspired by art. The pragmatists would defend the ideal of freedom of research from direct interests and demands in order not to limit the creativity that stems from a research process with its indeterminate situation. Peirce's pragmatic maxim directs our attention towards a practice-oriented concept of knowledge. Only the difference that makes a real difference, one could say, makes research worthwhile and relevant.

Expertise is relevant if it fulfils the function of being part of the interplay between society, the public, and politics. Authoritarian expertise is not in accordance with the principles of science as such and would only go with absolutistic leadership and not democracies. Although Dewey was convinced that the sciences represent the best kind of knowledge that there is to achieve, he would not opt for Brennan's suggestion that expertise should take over political decisions. The rule of scientists, philosophers, or technocrats would be oppressive to what Dewey thinks is the core of democracy, the ongoing transformations, associations, and transactions. He also not only refrains from directly applying expertise to practice, he warns that direct "transformation of scientific findings into rules of action" would serve only partial or short-sighted interests (Dewey 1929a: 9). Dewey cannot be used to justify the commercialisation of research for the reason of utility. As it should have

become clear, problem-orientation is very different from usefulness for at predefined context.

The criterion of relevance is central to Dewey's understanding of science and it also shows to be fruitful to be applied to expertise. Going back to the initial, heuristic definition of expertise I proposed, I can now highlight two pragmatic twists to the preliminary definition. The first is publicity that goes beyond the academic community and the other is the epistemic quality of relevance. Expertise is comprised of knowledge and skills that have been achieved, according to the rules of science (including those of the social sciences and humanities), and in relation to free communications and formation processes that are going on between the sciences, the public, and politics. Expertise has also been questioned and tested (according to the rules of science, social sciences, and humanities) within the scientific community and in the public with the assumption of a general orientation towards truth-seeking. From Dewey's point of view expertise should neither be seen as merely a procedure of legitimation for decisions based on prefabricated facts nor the authoritative judgement of a closed sect. That makes the position of experts in democracies far from easy, as the historian Hirschi, whose remark I used as a starting point for this investigation, also acknowledges. However, for a pragmatist this is the only way of thinking of science and expertise, not as authority and legitimation but as reflection and controlled action in public interest.

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Past Present

"Man is action, not being" Hegel *contra* Heidegger in an unpublished essay by Kojève

Marco Filoni

"Kojève has a rare passion for thinking. French thought in the past few decades is an echo of those lectures. Even the interruption of these talks is itself an idea. But Kojève only reads *Being and Time* as an anthropology". These are the words that Heidegger used in a letter to Hannah Arendt on September 29th 1967.

In these lines the philosopher from Meßkirch refers to the Paris lectures on Hegel which Kojève held from 1933 until 1939 at the École Pratique des Hautes Etudes. It is the well-known seminar dedicated to the reading and interpretation of the *Phenomenology of Spirit*, which was later collected in a volume published by Raymond Queneau in 1947 under the title *Introduction à la lecture de Hegel* (for Gallimard). These lectures became a reference point for a whole generation of French intellectuals (and not only) and represent a turning-point for the reception of Hegel's thought – or better, for Kojève's interpretation of Hegel's thought: when in the review *Le Contrat social* a critic, Aimé Patri, remarked that "under the pseudonym of Hegel, the author [Kojève] exposed a personal way of thinking", Kojève simply wrote a side note on this comment, using only two words: "Bien vu" (*well spotted*).

As for himself, Kojève had read Heidegger and had been influenced by his thought – at least by the first volume of *Sein und Zeit*. When in the 1960s he wrote the foreword to his work *Système du savoir* (which remained unpublished until the 1990 Gallimard edition entitled *Le Concept, le temps, le Discours*), he acknowledged his philosophical debt to Alexandre Koyré, Eric Weil and the influence of Heidegger's *Sein und Zeit*. Or rather, of the man he ironically called the "former-Heidegger": "I consider it my duty to mention here the name of that philosopher of genius, who, by the way, has taken a bad turn philosophically, perhaps precisely because of an unfortunate desire to 'surpass' Hegel by 'returning to'… Plato at first (via Husserl), next to Aristotle, then to… Hölderlin and finally to Parmenides, or rather to Heraclitus, or again to whomever".

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However, despite his harsh comment of the 1960s, thirty years earlier Kojève had contributed to the reception of Heidegger's thought in France. He had done it in the review *Recherches philosophiques*, founded in 1931 by Alexandre Koyré, Henri-Charles Puech and Albert Spaier. This review, a six-annual-issue publication (consisting of six voluminous tomes, of five or six hundred pages each) numbered from 1931-'32 until 1936-'37, is an extraordinary mirror of the philosophy of the time, since it allows us to understand and to estimate the penetration of modern German thought in France. The importation of German philosophy between the end of the 1920s and the 1930s had represented, in fact, the greatest innovation of French philosophy during the 20th century, marking a renewal which, like a sort of theoretical program, overcame the premises of the philosophical culture that was dominant since the early 20th century.

Under a prestigious national label such as that of German philosophy – linked with figures such as Dilthey, Heidegger, Hegel, Husserl, Jaspers, Scheler, Kierkegaard and Nietzsche – the local philosophical landscape started to change significantly, in particular 'academic' philosophy and its rationalism. In fact, the academic *milieux* were characterized by two main attitudes: the former reduced philosophy to a specifically 'positivistic' reflection on science; the latter had a predilection for a colorless intellectualism about ethical and political problems. The review, issued by a small Parisian publisher (Boivin), was led by an editorial board – comprised of the three founders and, after Spaier's death in 1934, also of Gaston Bachelard and Michel Souriau – and by a patronage committee which was meant to legitimize the publication, considering its marginal academic position (this latter committee included numerous professors of the Sorbonne or associated to the École Normale Supérieure and the Collège de France).

Kojève (who, at that time, used his unfrenchified name, Alexandre Kojevnikoff) actively collaborated with *Recherches philosophiques*, because of his personal friendship with Koyré and his competence in German philosophy. In particular, he collaborated with Koyré and Jean Wahl as curator of the section "Phénoménologie": here he reviewed several volumes dedicated to epistemology and phenomenology – it is important to note that the category 'phenomenology' included at that time not only Husserl's phenomenology in a strict sense, but also (and especially) the evolution of this latter up to Heidegger's thought.

In the fifth volume Kojève published a very harsh review of Alfred Delp's volume, *Tragische Existenz. Zur Philosophie Martin Heideggers* (Herder, Fribourg a.Br. 1935), a work since forgotten and with good reason. To the published text Kojève had also written a long side-note which has so far remained unpublished and which we present here for the very first time in English: it is

a text of annotations, a preparatory note which has, therefore, the unfinished style and form of a collection of notes or a work-in-progress. This note is essentially divided into a first part, in which the author translates some passages from Hegel and Heidegger, and a second part in which the author explains his own relation to the double reading of Hegel and Heidegger.

In the review issued in *Recherches philosophiques* he had introduced the argument: "It is only by confronting it with the work of Hegel that one can understand and appreciate the *philosophical* importance of Heidegger's work, and discover that it contains something truly new. In fact, part I of *Sein und Zeit* is only an attempt to reproduce – while correcting it – the phenomenological ('existential') anthropology of the *Phenomenology of Spirit,* in view of an ontology (the yet unpublished second volume) that is supposed to replace the misguided ontology of Hegel's *Logik*" (Kojevnikoff 1936: 416).

It is, however, in the unpublished part that Kojève deals more explicitly with the convergence of the two anthropologies, the Hegelian and the Heideggerian. The philosopher detects in the main questions of *Sein und Zeit* nothing more than the premises of Hegel's anthropology. And, therefrom, he directs his fundamental criticism at Heidegger: that he had missed – or softened – the importance of negativity and that, therefore, had not developed an important and essential sphere such as that of *action*. Kojève reproaches the author of *Sein und Zeit* with having drawn on the Hegelian theme of death but not that of 'fight' and 'work' – as if to say: Heidegger's philosophy does not account for history. This is, ultimately, the intrinsic limitation of Heidegger's anthropology: he founded it on three primary and irreducible categories (*Befindlichkeit*, *Verstehen* e *Angst*), which are no more than the transposition of three fundamental Hegelian categories (*Begierde*, *Arbeit* e *Kampf auf Leben und Tod*). Nevertheless, in transposing these categories, he softened the main aspect, the "active-*negating*" element.

This indication is precisely what marks the difference between the two philosophers: the fundamental feature of Kojève's philosophical anthropology consists in the humanization of the Negative which prevents any kind of match with Heidegger's thought. Furthermore, by excluding and «softening» the constitutive value of the negating action of *fight* and *work* – action arisen from the negating *desire* –, Heidegger excludes or does not necessarily arrive at the ambit of history: according to Kojève, the *Dasein* could constitute himself without coming into contact with the other man; it could well keep isolated and outside the world. The essence of the man is not only determined by the individual, but also by the 'Social' and the 'Historical'. And human 'existence' seems to be characterized not only by the fact that it is *finite*, but rather by the fact that it has the possibility of voluntary *death*, the death devoid of any

biological necessity. For this reason, Heidegger's philosophy risks becoming a naturalist anthropology which could only lead to an ontology of the natural being: an ontology incapable of accounting for those human existential realities that Heidegger himself would like to analyze in their constitution.

How is it possible to conceive the *Sein* of the *Dasein* if not as that which manifests itself as action? And can this action be anything other than the *negating* action? Kojève finds an answer to his question, by returning to the meaning that Hegel assigns to the negating action as *Aufheben*: an action which *destroys* the given natural and human being as given, by *preserving* it as natural and human and *sublimating* it through such a preserving destruction (which preserves it) in view of an aim. The aim will be one of the main themes of Kojève's philosophical reflection: the *recognition*, that process resulting from the fight for life and death that a man carries out, in order to impose on another, whom he recognizes as a man for the fact that he risked his own life to impose on him as a man.

This philosophical gap between Kojève and Heidegger is precisely the core of the confrontation between the two philosophers. And we go back to the beginning, to the words that Heidegger wrote to Hannah Arendt: "Kojève only reads *Being and Time* as an anthropology". In Kojève's hands, *finitude* is radicalized in view of the foundation of a human and temporal anthropology brought into the field of dialectics. For Kojève, as for Hegel, "the true being of man is his action" (in Kojève's own copy of Hegel's *Phenomenology* this sentence is markedly underscored). Therefrom the *concept* which replaces the being in the dialectical binomial with time: only the concept can make the being talk, can give rise to *speech* which is man's speech – that is, philosophy, the speech which accounts for all speeches, including itself. There is no silence, no opacity of the unutterable being (a meta-language) which is still the horizon within which Heidegger thinks.

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Note on Hegel and Heidegger[1]

Alexandre Kojève

Delp compares, it is true, Hegel and Heidegger. And he even says that: "In some extensive passages, Heidegger's *Dasein* is the simple transposition of the finite (*verendlichte Parallele*) of Hegel" (1935: 56). Unfortunately, for Delp, Hegel is still the "panlogist" maliciously invented by Schelling, who almost managed to erase the true Hegelian thought from the history of philosophy. Similarly, talking about Heidegger, Delp *counters* Hegel with what is – actually – deeply and essentially Hegelian. He also manages to make Heidegger a "consequent antipode" (1935: 79) of Hegel: "Hegel hypostatizes the positive component, man's *being*-component (*Seins-Komponente*); Heidegger hypostatizes the negative component, the finitude-limitation component (*Endlichkeits-Beschränkung-Component*)" (1935: 80). Or better, this opposition shows only Delp's complete misunderstanding of Hegel's thought. Although we cannot deal more in depth with this aspect, we would like nevertheless to translate some passages, which show clearly how close is the relation of Heidegger's anthropology with that of Hegel.

"This negative-or-negating absolute, this pure freedom, is – its appearance (*Erscheinung*) – death; and through its faculty/aptitude (*Fähigkeit*) to die the subject reveals itself (or proves himself: *erweist sich*) as free and utterly above all coercion" (Hegel VII: 370). "Totality, as a singularity [that is, the free and historical human being, the *Dasein* as *je-meines* in Heidegger] is posited upon itself as merely possible [totality], not existing as a static-isolated-being [*nicht fürsichseiende*]; in its subsistence, it is no other than that [singular totality] which is always ready for death, which performed an act of relinquishment [*Verzicht*] of itself" (Hegel XIX: 231).

[1] Review (1936) to A. Delp, *Tragische Existenz*, in *Recherches philosophiques*, V, 1935-1936: 415-419; first English translation, edited by Marco Filoni; a very special thanks to Nina Kousnetzoff, who granted us permission to translate and publish Kojève's essay.

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"The act-of-recognizing (*anerkennen*) the singularity of the totality brings with itself, therefore, the nothingness of death (…). Each one can know whether the other is [or not] a totality [that is, *Dasein*] only by forcing him to go to death. And in the same way, each one can reveal himself to himself [proving himself] as a totality only by going with himself to death" (Hegel XIX: 299). "Man is this night, this empty Nothingness which contains all in its simplicity (…). It is the night that one sees when one looks into a man's eyes (…). The active-power (*Macht*) of drawing images out of this night or of letting them slip away into it; active-self-positing (*Selbstsetzen*), *internal* (*innerliches)* consciousness, action (*Tun*). What-exists-as-a-static-given-being (*das Seiende*) returned into this night; but the movement of this active power is equally posited" (Hegel XX: 180). "If one represents [as Hegel himself does] consciousness [that is, Heidegger's *Dasein*] as going beyond [its determinate innate *nature*, which is its *Sein*, it static-given-being, or – in Heideggerian terms – which is simply the *Vorhanden-sein* of the *Dasein*] and as wanting to bring some other content [than that of this innate nature, of this Heideggerian *Vorhanden-sein* that Hegel calls also *Nichtgetanhaben*, What-man-did-not-*do*] to objective-actuality, then one represents this consciousness as making a nothing work actively its way (*hinarbeitend*) into the nothingness" (Hegel II: 261).

Generally speaking: "in my view, (…) everything hangs on understanding and expressing the True [that is, the being completely revealed to itself by the *logos*, by the reasonable speech] not [just] as substance, but just as much as subject (…). The living substance (…), as subject, is the pure [and] simple Negativity" (Hegel II: 12). Now, this Negativity (or freedom), this negating absolute is – in its isolation – death, or nothingness (*Nichts*; cf. Hegel V: 110). What converts the *substance* into a *subject* – Heidegger would say: the *Vorhandensein* into the *Dasein* –, in other words, what converts the being which only *is* (within or as space) into a being which reveals itself to itself as a being that reveals the being (within or as time); what posits the *totality* of *what is possible* (that is, *what is nonexistent* within space) as a *singularity* that have a duration within time (or, even better, as time); in other words, what converts a merely natural being into a human being, i.e. a free historical individual conscious of the being and of its own being, is the essential *finitude* of the being, which reveals itself to itself as such, as death.

This could sufficiently show whoever knows, to some extent, Heidegger's philosophy how close this latter is to Hegel's thought. In fact, we can identify in Hegel almost all those ideas defined as specifically Heideggerian, or Kirkegaardian, or Nietzschean, etc. That the human being (*Dasein*) is essentially a being-in-the-world (*In-der-Welt-sein*); that the human *world* (*Welt*) substantially differs from *nature* (*Natur*: *Vorhandensein*) because it is modified, or

– at least – revealed/considered as having to be modified, by work (*Zuhandensein*); that understanding (*Verstehen*), Speech (*Rede*) or reasonable thinking are based on the practical-and-emotional-presence (*Befindlichkeit*) – and not that purely "theoretical" – of the man in his world; that the totality of being reveals itself to the man only within and through anxiety (*Angst*), which shows him his own finitude, his death; that the human being is not only a being that *is* within space, but also – and above all – a nothingness which, as time, annihilates; that at the level of human consciousness such annihilation manifests itself as the heroical-resolution (*Entschlossenheit*) to accept the annihilation of the human, in the strict sense – which is time and pure possibility, not real – within and through the active *realization* (that is, *spatialisation*) of his essential possibilities; all this, and much more, is also Hegelian.

By mentioning this, we have no intention of depreciating Heidegger's work nor – this would be completely absurd – of indicating any plagiarism. Our only desire is to highlight its *philosophical* value, showing that the ideas of his work can be directly linked to – bypassing Kierkegaard's or Nietzsche's mythological poetry – to those of a man who undoubtedly developed a philosophical thought and who can be certainly counted among the greatest philosophers of humanity. And again, only by comparing him to Hegel, can we see what in Heidegger is philosophical and philosophically new. Now, it seems to us that such a newness does exists and exists as a definitive asset of philosophy. This new asset is the resolute acceptance of the ontological *dualism*, of the essential and ontologically irreducible difference between the human-being (*Dasein*) and the natural-being (*Vorhandensein*). Of course, this difference has often been affirmed, especially since the advent of Judeo-Christian thought; however, so far we have not acknowledged any *philosophy*, that is, any *ontology* that might accept two irreducible modes of the being. The Kantian revolution had only cleared the way for this dualist ontology, and – afterwards – nobody has dealt with it. As to Hegel, he never admitted even the possibility of questioning the traditional monistic postulate: all that is in one and the same way. And it is this which makes his ontology – on the whole – a complete, albeit grand, failure. His ontology, which – being unique – was aimed at supporting natural sciences, does not account for his anthropology, his phenomenological description of the finite, annihilating, negating man who *is* time. For him, however, the traditional ontology, unsettled in its deepest foundations by the introduction of Negativity, which aimed at providing an anthropological interpretation, also ceases to account for the identical subsistence of the spatial natural being (in three or four dimensions). Since then philosophy has failed to overcome this impasse of Hegelian ontology, opting for a general abandonment of ontology and thus ceasing its existence as philosophy in the strongest sense of the

term. Inspired by Husserl's rediscovery of philosophy, Heidegger is the first – after Hegel – to answer the ontological question to its greatest extent. He is the first to ask the question, without assuming the supposedly evident principle of monism. Of course, his ontology remains so far a plan. Nevertheless, this plan is such as to prevent the risk of repeating, by realizing it, what had already be done, that is, the ontological monism that – with Hegel – had apparently exhausted *all* its resources. This program is such that it apparently does not preclude the possibility of realizing an ontology that might finally account for the truths about human existence, mythologically expressed in the Bible, phenomenologically described by Hegel, and accepted, as to their essence, by modern thinkers in general and especially by Heidegger.

This notwithstanding, Heidegger does not limit himself to the transcription of the phenomenological content of the *Phänomenologie des Geistes* into a (if not German, at least) modern language. He modifies it markedly. And – what we consider seriously dangerous for the future ontology – he modifies it by cancelling – or more precisely, by softening – whatever is related to the element of Negativity in a strict sense, which nevertheless constitutes the specific human element in Hegel's anthropology.

Essentially, Heideggerian anthropology reveals/is founded on three primary and irreducible categories (or *Existentiale*): *Befindlichkeit*, *Verstehen* and *Angst* (the *Rede* – the *logos* – that is deduced from the first two). These categories correspond to Hegel's three primary and irreducible anthropological categories: *Begierde*, *Arbeit* and *Kampf auf Leben und Tod*. Now, in each of these three categories, the active-negating element is attenuated by Heidegger. The *Befindlichkeit* is the man reduced to the feeling of *his* 'being' and his '*ought*' (*dass es zu sein hat).* The *Begierde*, too, is all this but also something more: the man who is – and ought to be – by *negating*, *removing*, *destroying* actively the given being which is not his own, which is not him; the man who is what he is, as a man, only within and through such active negation of the non-human given being. The *Verstehen* (and the reasonable speech) is the man who actively achieves a goal (*Entwurf*), thus mastering the thing and becoming its master through his act of *understanding* (that is, *naming*) it. This perfectly corresponds to what Hegel states about *work* (*Arbeit*). However, he claims that work is always active *negation* of the given form of the transhuman being. (Hegelian *Welt*, too, arises only within and through work in a strict sense, whereas Heidegger's *Welt* is *Welt* and not *Natur* for the simple reason of the presence of a *Befindlichkeit*). In short, it is only within and through the *anxiety* (*Angst*) revealing his death that man definitively constitutes himself as a man, that is, as historical free individual, who can ultimately become *sophos*, i.e. the man who is what he does and knows what he is, and who expresses all this within and through his

reasonable speech, through his philosophy which shows him to himself in the form of a nothingness that annihilates as time within space. And this is precisely what Hegel states about the *anxiety* (*Furcht*) felt within and through the *fight* for life and death. Nevertheless, unlike Heidegger, Hegel states that what has human or, more precisely, the humanising value attributed by Heidegger is not the anxiety due to the passive contemplation of one's approaching biological end, but only the anxiety within and though the fight for death – that is, within and through the active-*negation* of the given being as What-is like-him-without-being-him (in short: of another man), of a being which can then negate him actively, too -, in other words, it is only the death revealed within and through such negating fight. It is in this way that, in Heidegger, the other man emerges only as a *Mit-dasein* or as a mere *Mit-sein*, which can be passively understood as a mere being-together-as-men within the spatial nature converted into *Welt*, into the human, social, historical sphere/world, through the simple co-presence of many *Befindlichkeiten.* On the contrary, in Hegel, the other-man as well as the being-together-as-men constitute themselves only within and through the *negating* interaction of the fight to the *Anerkennen,* that is, the act of recognising others and being recognized as *human*-being, a human-being who constitutes himself as human only within and through this fight, or better, within and through this act of recognising that is mediated by this fight, through the anxiety over possible death as actively given to the other and voluntarily accepted by him. Therefore, the Hegelian reconstruction of the human-being shows us this being as being essentially social and historical, that is, as being always either in the attitude of active internegation with other men (i.e. as taking part in wars and bloody revolution constitutive/constituent of the State) or in the attitude of the communal active negation of the given form of the natural being (that is, as integrated into a working society), thus participating/cooperating in the active creation of an ever-new present of the spatial being, resting on the nothingness of the past of the being that is actively negated in view of the nothingness given as possibility of the future, which – being human in a strict sense – has thus a real presence (*Gegenwart*) in this spatial present temporilized, "presented", converted into historical now. On the other hand, Heidegger's reconstruction, excluding and softening the constitutive value of the negating action of *fight* and *work* (this work is – according to Hegel – actively imposed on the vanquished by the victor of the fight), which arose from the negating desire, does not necessarily lead to the constitution of society (the State) and history. In other terms, the *Dasein* might constitute itself by remaining in its isolation, without any contact with the other-man: if, on the one hand, we clearly understand how and why Heideggerian anxiety over death individualizes the *Dasein*, on the other we do not understand how

and why such anxiety could or should really socialize and historicize it. Now, there is undoubtedly an insufficiency, even in the phenomenological description: the "essence" man is determined by the Social and the Historical not less than by the Individual sphere; and human "existence" seems to be characterized not so much by the *fact* of being finite (biological subsistence is finite, too) but rather by the *voluntary* death, by the death without biological necessity, so easily accepted by himself and the others and so often imposed on others. And such insufficiency of the phenomenological description may have serious consequences for the ontology of the human-being, which such a description is supposed to make possible and accessible. Hegel had grasped this danger. When in Chapter 5 of the *Phänomenologie* he talks about the individualistic bourgeois intellectual, i.e. the man who – never risking his life nor working – realizes and understands himself without taking into account the constitutive value of the true negating action, that is, the action of fight and work, Hegel shows that this man, after the failure of the subjective idealism that he has imagined at first, comes to understand *himself* (by misunderstanding – within his self-understanding – the true man, that is, the citizen who fights and works in and for a State) within a purely individualistic anthropology, which ultimately reduces the human-being to the static-given-being (*Sein*) of an inherited skull. Now, this naturalistic anthropology can only lead to an ontology of the natural-being, which could not account for the essential human realities/truths that Heidegger would like to analyze in their own being. In fact, by opposing the *Sein* of the *Dasein*, the *Sein* that is *Existenz*, to the *Sein* of the *Vorhandensein*, can we consider the former as anything other than the *Sein* that manifests itself as action? And can we consider this action as anything other than the *negating* action, in the Hegelian meaning of the term, that is, as *Aufheben*, as an action that *destroys* the given natural and human being, although *preserving* it as human and natural and *sublimating* it within and through such a preserving destruction, which is performed in view of a future *aim* (*Zweck*), of some What-is-not-yet in the spatial present in which, without the active intervention of man, What-is-not-yet is – eternally – only What-is-not-at-all? And is such negating action anything more than, on one hand, work and, on the other, the fight for life and death that a man carries out in order to impose on another, whom he recognizes as a man for the simple fact that he risked his own life to impose on him as a man – such a work and such a fight that can be found wherever it is possible to speak of *human* realities and that we naturally tend to seek and find precisely there?

[…]

In fact, it is highly improbable that Hegel and Heidegger's point of *departure* could have been a sense of finitude: men whose point of *departure* is such a sense

rather tend to clear out of it within and through a religious conversion, which gives them faith in immortality. In fact, Hegel starts from the idea of man's freedom and historicity and – quite laboriously – arrives at the idea of the finitude of the human being as a necessary ontological condition for the existential reality of the free and historical man. Later, he presumes that the fact of self-consciousness (or of the *Logos*) is not possible without the finitude of the being which reveals itself to itself as being through speech. Heidegger – at least in his philosophy – avoids the fact of freedom and historicity as point of departure, probably afraid of ending up with a *Weltanschauung*. He limits himself to the fact of self-consciousness (not to the *cogito* but to the *cogito-sum* which is *entirely* the primary philosophical datum), – and precisely like Hegel – it is from this latter that he states the necessary premise (*Cogito-sum ergo sum finitus*). Now, it is difficult to deny the fact of self-consciousness; and it does not make sense to say that there is a particular *Befindlichkeit* in view of which a *Weltanschauung* is constituted, since any *Befindlichkeit* presupposes (logically) self-consciousness with no other determination of oneself (the pure *cogito-sum*). In order to refute Hegel-Heidegger, one should therefore show that self-consciousness does not presuppose (ontologically) finitude. Now, as far as we know, neither Delp nor any other opponent of finitism has ever furnished such a demonstration. In general, one does not even understand that – to use Hegel's words – it is only in order "to comprehend and express the substance as subject" that we ascribe to such a substance-subject this Negativity, that is, the essential finitude and – finally – the consciousness of finitude, in other words, the anxiety revealing death.

The "refutation" that we find in chapter 4 of Delp's book is much simpler. Finitist "existential" philosophy is only a *Weltanschauung* that arises from the *Befindlichkeit* of the man who made the mistake – for that matter, inexplicably – of losing faith in God. Recover your faith and the Heideggerian nightmare of death will soon disappear. We do not wish to ask Delp whether believing in God means anything more than the refusal to accept the idea of death. Hegel denied it, but maybe he was wrong. We do not insist. We only draw Delp's attention on the fact that, in order to convert a philosopher as a philosopher, it is necessary to show him that he can be still a philosopher after his conversion. Now, as to Heidegger's conversion to Catholicism, it would be necessary to show him that he can continue to *understand* himself as a being that reveals the being, assuming himself as an immortal, eternal being – that is, ultimately, merely spatial (in four dimensions).

However, let us go back to our question. May we say that Hegel-Heidegger did actually prove the finitude of the human being? We are inclined to answer positively, but with an addition: to those who *want* to believe it. And, saying this, we address again the problem of *Weltanschauung*.

We have said that self-consciousness is not a *Befindlichkeit* and that, consequently, it cannot constitute by itself a *Weltanschauung*. Of course, we do not deal here with *Befindlichkeit* in a strict and common sense. We could even say that it is a *fact*, in the strong meaning of the term. Nevertheless, it is not a fact from which we can deduce necessarily/without any ambiguity the finitude of the being-conscious. Speaking of self-consciousness, Hegel and Heidegger say: *I* am conscious of (the being which is as) *myself* (*cogito-sum*). Had we not said, however, that it is an infinite God who thinks within "us" and gains consciousness of *his* being? Let us presume that the *I* think presupposes/entails the finitude of the thinker/of the being which thinks so. It follows therefrom – if it is God who thinks in "me" – that, so far as *I* think as *myself*, I am finite; but, so far as "I" *think*, or better, so far as *God* thinks in "me", "I" am or, at least, can be infinite (immortal), precisely like the divine thinking being. Or again: from the fact that *my* thinking is finite it does not follow that *the* thinking must be finite. Let us suppose that *my* thinking, as thinking of something finite, is finite; the *thinking* (of God, as thinking of something infinite) can be infinite. Let us suppose that I do not manage to understand a self-consciousness that would not entail finitude; this means only that *my* finite thinking, which reveals *me my self* as finite, cannot comprehend *the* infinite thinking that reveals to God *his* being infinite. Now, it is not surprising that the finite – as finite – does not comprehend the infinite. And if the finite as finite can neither demonstrate nor comprehend the infinite, this finite is not allowed – demonstrating and comprehending himself as finite – to deny the infinite nor to deny the possibility of the infinite to *comprehend* himself as infinite. In other terms, from *cogito-sum ergo sum finitus* we cannot state that *cogitat-est ergo est infinitus* is a fallacy, nor can we exclude the possible conclusion that the *ego-cogitans*, as a mode of the *id-cogitat*, takes part – if not as *ego*, at least as (*res*) *cogitans* – in the infinite. Of course, this kind of considerations gives rise to great difficulties (on which we shall not dwell here). Nevertheless, the difficulties resulting from the contrary thesis are no less great, so that the choice of one of these two theses is not *demanded*; the choice remains *free*. Now, in order that this choice is really free, it is necessary to know the alternatives between which we have to choose. Between which alternatives is our choice here? On one hand, there is a philosophy whose point of departure is the *cogito-sum* and which results necessarily in the finitude of the *ego cogitans*; according to this philosophy, every *id-cogitat* is always an *ego-cogito*; in its perspective, *whatever* thinks is then finite, and the infinite can, at most, be thought without being himself able to think; consequently, this philosophy – as Delp efficiently noticed – is necessarily atheistic. On the other hand, there is a philosophy which presupposes the existence of an infinite; its point of departure

is the (*ego*) *cogito-sum*, but it rapidly focuses on the (*id*) *cogitat-est*, observing that nothing contradicts the supposition that this *cogitat* is the *cogitatio* of an infinite being; this philosophy does not exclude therefore theism. May we say that the choice at issue is a choice between theism and atheism? But what do theism and atheism mean to whoever must choose between them? In atheism, the *cogitatio* is reduced to the *cogito*, to the *ego cogito*; in other words, I am *myself* and I think myself as *myself*, without requiring a Self who is not me in order to *think* myself as myself (and to *be* myself); the *ego* is what he is by himself, and it is he who reveals himself to himself as being by himself and as revealing himself to himself; if he had to suppose a – perhaps infinite – being who is not him, this being will be a being that can be thought without being himself able to think. In short, in atheism there is an autonomous ego, but this ego is necessarily finite and conscious of his (mortal) finitude. In theism the (*ego*) *cogito* is connected with a (*id*) *cogitat* (and – ultimately – with a *cogitor*); in other words, I can be myself and think myself as myself only if I take part in the being and the thinking of a Self who is not my self; the *ego* is not what he is – *ego cogitans* – by himself, but through (and within) the Self who is not him; since this self of mine is – by definition[2] – infinite, the *ego* – according to the-

[2] We say "by definition", because we do not know any decisive reasoning which may allow us to *deduce* from the fact of the (finite) *cogito* the objective reality of a transcendent infinite thinking being. In our opinion, all the demonstrations, albeit barely questionable, of the existence of God can be reduced to that proposed – in its definitive formulation – by Descartes. The reasoning can ultimately be reduced to the following: the *ego cogito* reveals the finitude of the *ego*: a finite *ego* cannot create/produce the idea of an infinite; now, the *cogito* entails – among others – this idea*; outside* my finite self there must be an *infinite*, who makes this self of mine fathom the thought/idea of infinite; the thought of infinite is an infinite thinking; now, my thinking is finite; there is, therefore, an infinite *thought outside* the *cogito*: we can suppose that such an infinite *thought* is the thought of the infinite *being*, since the *infinite* being entails *all* that *is* in whatever way; therefore outside myself there is a being who thinks – there is a God.
Such an argument makes sense only if we admit that a finite being cannot think the infinite, except by taking part in the (infinite) thought of an infinite being. Now, we do not understand why we should admit such a thing. Let us suppose that every thought reveals – ultimately – a being. The thought of infinite reveals then an infinite *being.* If we want, we can define this thought as infinite. If we do not introduce the postulate according to which a finite being cannot have any infinite thought (that is, revealing an infinite being), one cannot come to the conclusion that there is an infinite being *who thinks*. Now, an infinite being *which does not think* (the infinite space, for example) is certainly not God. The whole thesis is, therefore, reducible to a postulate which seems far form being evident. (The problem/argument of the 'actual' infinite – after Cantor and although in opposition to his own personal opinion – has no longer any theological meaning: apart from the Continuous, any 'actual' infinite can be transcended, that is, converted into a non-'actual' infinite). In more general terms, the postulate which allows for a demonstration of theism states that the (finite) being can never transcend itself (not even within and through its thinking). Now, modern (atheistic) anthropology definitely assumes this possibility, by defining the (finite) man as a being who transcends himself or who is transcendence of himself (*Dasein ist Transzendenz*, says Heidegger; *Mensch ist Tat*, says Hegel, which means the same thing; both the formulas ultimately mean: *Geist ist Zeit* or *Dasein ist Zeitlichkeit*). In

ism – takes part in infiniteness and can conceive himself as such (immortal), but this *ego is not autonomous*. So, apparently the question can be reduced to the choice between autonomy and non-autonomy of the *ego*. And it seems then that Hegel was not wrong to address the problem as follows: either God (and immortality) without freedom or freedom without God (that is, without immortality). Doing so, Hegel justifies himself twice. On one hand, he claims to adhere to the fact that the immanent development of (Judeo-Christian) theism results (with Calvin) in the radical negation of freedom, of the autonomy of the *ego*. On the other hand, he believes he has shown (and, personally, we agree with him):

– that the *ego cogito sum* only arises and can arise from and within the *Begierde*, the negating *desire*, which is already the destroying action, that is, Negativity or freedom;

– that this Negativity *is* finitude, annihilation within (or as) time;

– that the affirmation of such a Negativity excludes the existence of an infinite Self transcending my negating self.

For Hegel, the *ego-cogito-sum* is already freedom; in his opinion, the choice between the *cogito-sum* and the *cogitat-est* (or *cogitor-sum*), that is – ultimately – between atheism and theism, *is* already a choice between the consciousness of freedom (and the freedom of consciousness) and the consciousness of servitude (and the servitude of consciousness); and we can see that this choice is – ultimately – a decision for and against death. This is what we find in Hegel, but we could show that it is no different in Heidegger. Although he softens the constitutive value of the negating action, that is, the action of fight and work, it is nevertheless *autonomy* – the freedom of the *ego* – what he considers the fundamental content of the *ego-cogito-sum*, which is his point of departure and which he wants to explain within and through his philosophy (which takes no interest in the *cogitat-est*, almost never dwelling on the – atheist and Hegelian – philosophical problem of the *cogitat*, *ergo est res cogitata non cogitans*, problem of science). Undoubtedly, in unison with Hegel (and perhaps with all true phi-

the perspective of the atheistic anthropology, therefore, Descartes' argument is not decisive: in other words, it is not an evidence.

However, it seems to us that nor the thesis of the possibility of self-transcendence (for Hegel, within and through, or even better, as conscious negating action) – which would make atheism possible – is evident. In another formulation, the problem rises often: there is who says that one can overcome (and conceive) evil, the imperfect, only by conceiving (and moving to) what is good, that is, an already existing perfection; there are others who think that it is possible to overcome What-is only moving from What-is, that it is possible to (conceive and) overcome What-is as imperfect by simply negating it and by creating within and through this same negation a new What-is which, being the negation of the imperfect, is perfect (or, at least, more perfect than the negated, overcome imperfect). And, apparently none of these two positions manages to convince the other.

losophers), in addressing the problem of *ego-cogito-sum*, Heidegger is not interested in the *cogito* or the *sum*, but rather in the *ego*: if he addresses the ontological problem of the Being, it is above all to solve the problem of the being of the *Self*. Apparently the whole question can be reduced to the free choice between the (atheistic) freedom and the (theistic) servitude.[3] However, once more, in order to choose, it is necessary to know between which alternatives one must choose. Autonomy, freedom are initially only words that express, at most, a *Befindlichkeit*, giving rise therefore to a mere *Weltanschauung*. In order to become *philosophy*, freedom must comprehend itself within and through a philosophical comprehension. Now, philosophy has to do with concrete realness and not with abstractions. What is real and concrete is not *the* freedom but *my self* who is free. In order to comprehend freedom philosophically, I have then to comprehend myself within my exercise of freedom. In other words, I have to do what Hegel and Heidegger – for instance – respectively did in the *Phänomenologie* and *Sein und Zeit 1*, or – at least – recognize myself within what they said there. (And, ultimately, I have to realize the *ontology* of my being/myself as free – or to wait for the publication of the 2nd vol. of *Sein und Zeit*, if I am not satisfied with the two volumes of Hegel's *Logik*). The decision for or against freedom, so far as it is philosophical (that is, entirely conscious and – therefore – truly free), is thus a decision for or against the truth of a philosophical anthropology (or an ontology) that reveals the *sense* as well as the *essence* of my freedom to my empirical consciousness. Since this is ultimately about *myself*, we could say with Fichte – and Delp who quotes him – : "The philosophy that one chooses shows what kind of *man* one *is*". And, in this sense, we could say that every *choice* of a philosophy is finally done in view of a *Befindlichkeit*, of the irreducible emotional attitude that one assumes within the world where one lives. However, this notwithstanding, the philosophies that we choose are not a function of the *Befindlichkeit*: by choosing one of them, one chooses the *truth*, which annihilates all that the latter is not, and not just any *Weltanschauung* among the innumerable others, already realized or only possible. *And*, once one chooses a philosophy, one must admit that a man who has chosen the *fallacy* of a *Weltanschauung* is – although he is still a *man* – a man who does not live *in/within the truth*, who is not *sophos*, who is not even a philosopher.

Translated from the French by Gennaro Lauro

[3] We have chosen this formulation especially because we would like to say that one should not reason as follows: the necessary consequence of the *free* choice is the choice of freedom (that is, atheism). This argument entails a very serious problem, but – as such – it does not prove anything at all.

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