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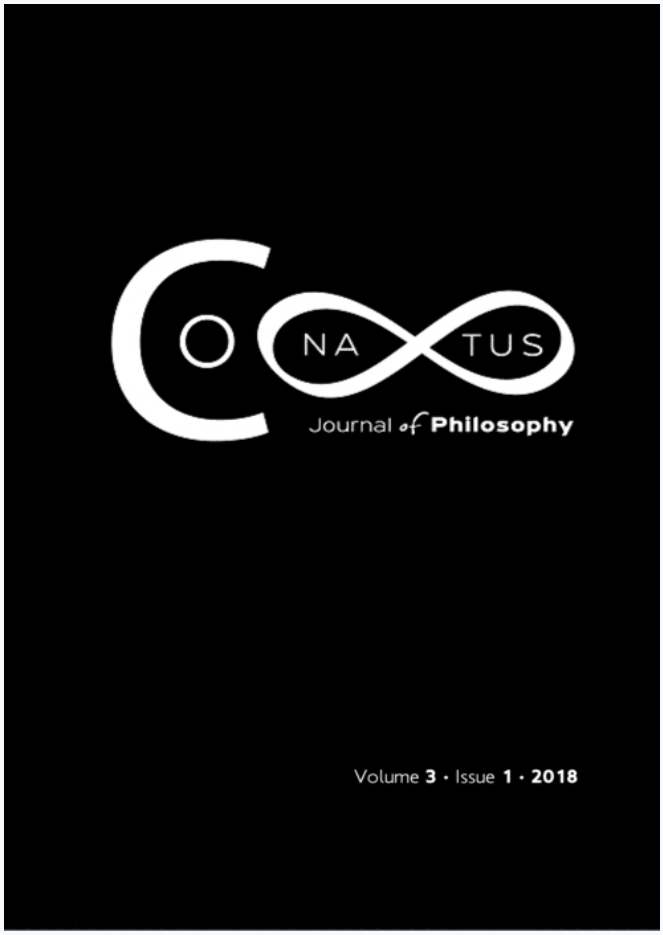

Bioethics as the 'Third Culture': Integrating Science and Humanities, Preventing 'Normative Violence'

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Bioethics as the 'Third Culture': Integrating Science and Humanities, Preventing 'Normative Violence'

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Abstract

Integrative Bioethics engages in descriptive and normative fields, or in two cultures, as Snow puts it in The Two Cultures and the Scientific Revolution, *announcing though, in his later writings the emergence of a third culture that can mediate between the two. Thomas Kuhn in* The Structure of Scientific Revolutions *exposes the practice of a new paradigm of the teaching of history describing in fact the relation of science and humanities in the positivist era. The long standing reasons-causes debate that lay the groundwork of the implied incompatibility of the two cultures, as it reflects on the Collingwoodian anti-causalism of the philosophy of history, against Davidsonian causalism, may elucidate the problem of the 'marriage' of cultures. Taking a look on Collingwood's absolute presuppositions and Carnap's external to linguistic frameworks questions, will help us investigate the possibility of a coherent framework for integrated Bioethics. Can we frame a transdisciplinary field, where science and humanities as collaborating social practices, or as a new 'cultural policy' (according to Richard Rorty), will abstain from normative violence against each other?*

Key-words: *Kuhn; Snow; Collingwood; Davidson; Carnap; Rorty; reasons; causes; Bioethics*

I. Humanities and natural sciences

The overwhelming belief of the scientific revolution is that all problems can be solved only within the realm of physical sciences and mathematics. Logical positivism that dominated Anglo-American philosophy until the 60s, rejected all traditional metaphysics as meaningless. In the context of absolute dominance of physical science and mathematics, humanities for the first time in history have lost their leading role in education. Science and its methodology became the only valid procedure of producing knowledge and the organizing ground of human life.

In the first decades of the twentieth century, the modernist call for a unifying scheme dominated all scientific and cultural fields, even architecture and other arts. "Logical positivists argued for a unity of science; theirs was to be a unity achieved through a description of science that grounded all meaningful scientific activity on an observational foundation. Such a grand reductive unification participated in the broader cultural currents of modernism."[1] The modernist rhetoric of Russell, Neurath, Reichenbach, Schlick, and Carnap discredited philosophical tradition by giving primacy to experience over theorizing, discarding the greatest part of humanities as nonsense.

According to Kuhn, during the phase of new science:

> "... in the development of a natural science, when an individual or a group first produces a synthesis able to attract most of the next generation's practitioners, the older schools gradually disappear. ... Those unwilling or unable to accommodate their work to it must proceed in isolation or attach themselves to some other group. Historically, they have often simply stayed in the departments of philosophy from which so many of the special sciences have been spawned."[2]

It is easy to conclude from this description of normal science - a narrative that has more to do with modernist physical sciences after the scientific revolution- that the departments of philosophy became a wastebasket for the old theories, from which nevertheless "many of the special sciences have been spawned" (Kuhn's philosophy of science being one of them). It was after World War II that through an antipositivistic reaction, primacy was given to theory.[3] But during the logical positivism era, the incompatibility of humanities with the physical sciences, and the cognitive sufficiency of the latter became established *credos* and were inherited by analytic philosophy. Thomas Nagel characterizes this stance of analytic philosophy as one of the directions of the problem of bringing together the subjective and objective views of the world: "...this second version of the problem ...is the obverse of skepticism because the given is objective reality or the idea of an objective reality- and what is problematic by contrast is subjective reality. Without receiving full acknowledgment this approach has been very influential in recent analytic philosophy. It accords well as a bias toward physical science as a paradigm of understanding."[4]

C. P. Snow's lecture *The two Cultures and the Scientific Revolution*, is of cardinal significance in the field of the humanities and science conflict. The lecture starts

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[1] Peter Galison, "History, Philosophy, and the Central Metaphor", *Science in Context* 2, no.1 (1988): 198.

[2] Thomas S. Kuhn, *Structure of Scientific Revolutions* (London: The University of Chicago Press, 1970), 18-19.

[3] Galison, 198.

[4] Thomas Nagel, *The View from Nowhere* (Oxford: Oxford University Press, 1986), 19.

with a remark: "I believe that the intellectual life of the whole of western society is increasingly being split into two polar groups ...intellectuals at the one pole – at the other scientists...between the two a gulf of mutual incomprehension ...hostility and dislike, but most of all lack of understanding."[5] And he ends up with the suggestion: "All the arrows point at the same way. Closing the gap between our cultures is a necessity, in the most abstract intellectual sense, as well as in the most practical."[6]

It was at the same period that antipositivist philosophy and history of science attacked the authority of modernist philosophy of science. The possibility of a protocol language (Carnap) would be questioned by "theory contamination" or "theory-ladenness". Common linguistic structure was doubted through Quine's indeterminacy of translation and Kuhn's "meaning incommensurability" both showing to the direction of "inability of one language and its referential structure to fully translate into another language system."[7]

Martha Nussbaum, echoing Snow's appreciation of humanities claims that they help in the better understanding of the world we live in. The *global educational crisis* is capable of becoming more dangerous for the future of democracy than the economic crisis. In *Not For Profit -Why Democracy Needs the Humanities* (2010), she writes:

> "If we do not insist on the crucial importance of the humanities and the arts, they will drop away, because they do not make money. They only do what is much more precious than that, make a world that is worth living in, people who are able to see other human beings as full people, with thoughts and feelings of their own that deserve respect and empathy, and nations that are able to overcome fear and suspicion in favor of sympathetic and reasoned debate."[8]

Both Snow and Nussbaum consider humanities as an additional but separate education that cultivates the students ethically and emotionally, opening their minds and making them better persons and citizens. They don't examine the possibility of collaboration of two cultures in creating an integrative discipline, i.e. making the two areas commensurable and cooperating. From the scientific revolution onward, humanities have been accepted only as a supplementary education to scientific studies, optional and useful for the educational objectives of the new paradigm. Kuhn says about the role of textbooks and especially about the history of science that they project:

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[5] P. C. Snow, *The Two Cultures and the Scientific Revolution* (New York: Cambridge University Press, 1961), 4.

[6] Ibid., 53.

[7] Galison, 206.

[8] Martha C. Nussbaum, *Not For Profit: Why Democracy Needs the Humanities* (Princeton and Oxford: Princeton University Press, 2010), 143.

> "For reasons that are both obvious and highly functional, science textbooks (and too many of the older histories of science) refer only to that part of the work of past scientists that can easily be viewed as contributions to the statement and solution of the texts' paradigm problems. Partly by selection and partly by distortion, the scientists of earlier ages are implicitly represented as having worked upon the same set of fixed problems and in accordance with the same set of fixed canons that the most recent revolution in scientific theory and method has made seem scientific. No wonder that textbooks and the historical tradition they imply have to be rewritten after each scientific revolution. And no wonder that, as they are rewritten, science once again comes to seem largely cumulative."[9]

Vasso Kindi in "Should Science Teaching Involve the History of Science? An Assessment of Kuhn's View" specifies three ways of answering the question she poses in the title.[10] I will expand the scope of these answers, from science teaching-history of science relation, to science – humanities relation, considering these relations proportional. One option according to Kindi is the possibility of rejecting the distinction altogether and suggest that it would be reasonable to teach the only history of science worthy of the name (i.e., the historians' history) as part of a humanities curriculum for the general education of students[11], a view about humanities and science that could be attributed to Snow and Nussbaum. The other option emerges in the work of T.S. Kuhn. Kuhn upholds the distinction, but does not make normative suggestions. He highlights the importance of the bad history of textbooks because he perceives science as a practice and not as a set of propositions forming a theory. If he had taken science to be merely a set of true statements, it wouldn't make sense to include in it false propositions like the ones fabricated by textbook history... because he understands science as a practice, he recognizes the conditions that make it possible. One of these conditions is the retrospective reading of history... according to Kuhn, the new paradigm needs to make such moves, in order to even be considered a candidate for replacing the old paradigm and eventually get established.[12]

According to this interpretation, Kuhn makes a statement about the practice of modern science that reveals its attitude towards history. He is essentially describing the positivistic paradigm with the acceptance of incommensurability between the two cognitive fields. Another option is "the case of accepting the distinction between

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[9] Kuhn, 137-138.

[10] Vasso Kindi, "Should Science Teaching Involve the History of Science? An Assessment of Kuhn's View", *Science & Education* 14 (2005): 727.

[11] Ibid.

[12] Ibid., 727-728.

historians' history of science and textbook history of science and reject the teaching of textbook history on the grounds that it would promote the dissemination of facta ficta."[13] This is the case today, that internet replaced textbooks as the only source of knowledge, and manipulation of knowledge is impossible, contaminating in this way 'pure science' by the self knowledge of its historicity. To overpass the positivistic stance, science must adopt humanities' glance. All three options though, recognize the incommensurability of two cultures and their difference in kind. Is there a fourth option?

The unsolved problems and puzzles of quanta mechanics and the emergence of theories as Werner Heisenberg's uncertainty principle in physics, after the World War II, progressively shook the causalist certainty of positivism to the earth. In this context new theories appear, as Quine's methodological holism, Popper's abandonment of induction, and the rebound of history of science with Kuhn's *Structure of Scientific Revolutions*. This new view of science as a social activity with historic and practical constraints brings humanities and science closer as kinds of knowledge. But these new interpretations remain outside the 'tough core' of science and its every day practice in education and research institutes which remains positivist.

Snow in his essay *The Two Cultures: a Second Look,* claims that a third culture is emerging in social sciences that makes the contact between science and humanities easier. We consider Bioethics to be the typical paradigm of this third culture and a fourth option in the science- humanities relation. It can be a fourth option of answering the question *Should Science Teaching Involve the History of Science?* In Bioethics, ethics becomes a constitutive part of the discipline, and not an optional supplementary education. Because Bioethics demand *consent* for scientific research and application on humans, animals and nature, it is the first time that the scientific program has to consider ethical and social constraints, not just as the traditional disciplinary internal ethics, but as rules that define its activity. Bioethics however, could easily be accused of conservatism in the sense that it imposes ethical rules on science in the same way that the Inquisition imposed religious beliefs on Galileo's research. That's the reason why the two cultures cannot just coexist in their different frameworks side by side, but they must form a new framework that aims at *beneficence, non maleficence* and at *justice* while at the same time *respecting autonomy*. One way may be regarding science and humanities as kinds of social practice, while there is need for each culture to abstain from normative violence on each other as Richard Rorty would put it.[14] Recognizing the mixed normative and descriptive elements in both cultures, they must collaborate in a new framework, keeping their reasonable differences, deep interests, problem solving procedures, and possible metaphysical claims not under a 'veil of ignorance', but under a 'veil of normative modesty'.

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[13] Ibid., 727.

[14] Richard Rorty, *Philosophy as Cultural Politics. Philosophical Papers, Volume 4* (New York: Cambridge University Press, 2007).

New naturalism's and eliminative materialism's pressure is a "free ride" claim[15] for the hunt of scientific truth in a program without ethical constraints and without consent. That is exactly what happened in concentration camps during experiments on humans and was globally condemned, its impact giving rise to Bioethics through the Nuremberg code that followed the Nazi trials. Bioethics as a new transdisciplinary field, demands the bioethical education of young scientists. It is an integrative discipline based both on applied ethics and scientific knowledge, demanding the humanitarian education that will render the understanding and application of bioethical principles possible.

We will subsequently examine reasons-causes debate that is the ground of the humanities-science conflict.

II. Reasons-causes debate

Positivists considered all traditional metaphysical problems as "meaningless gibberish" and attributed meaning only to what is empirically verified or analytic. Human sciences that explain by reasoning have low predictive power compared to sciences of nature that can predict following causal chains. The incompatibility between reasons and causes rests on the grounds of incommensurability between humanities or sciences of the mind and the sciences of nature. The non-causalism of the golden age of the philosophy of history, in about 1960, was expressed by the non-reductivist slogan 'reasons are not causes'. This soon changed into a new orthodoxy, with the slogan 'reasons are causes', which followed Davidson's essay "Actions, Reasons and Causes", an ontological backlash as Giussepina D' Oro characterizes it in "The ontological Backlash".[16] At this point, we are going to follow further D' Oro's narrative of the history of reasons/ causes debate and the explanation of mainstream analytic philosophy's losing interest in the philosophy of history.

Mill in his *System of Logic: Radiocinative and Inductive* will make the distinction between exact and inexact sciences considering the difference a difference in degree and not in kind, ignoring the reasons-causes difference. One and a half century later, the Quinean distinction between philosophy and the natural sciences as a difference in degree and not in kind, points in the same direction.

In between, in the mid-twentieth century, at the heyday of the philosophy of history, while the main philosophical debate was about the action-event distinction and the methodological unity of sciences, the predominant view was that the distinction between the human and natural sciences is a distinction in kind, not in degree. According to the so called 'logical connection argument', Dray following

[15] Jürgen Habermas, *The Future of Human Nature* (Cambridge: Polity Press, 2003), 21.

[16] Giussepina D'Oro, "The Ontological Backlash: Why did Mainstream Analytic Philosophy Lose Interest in the Philosophy of History?", *Philosophia* 36, no. 4 (2008): 403-415.

Collingwood and others claimed that since the relationship between the *explanans* and the *explanandum* in action explanation is logical or conceptual, "reasons cannot be causes."[17] The debate was still for the structure of explanation and the unity of the sciences. But soon the debate will move from the action-event distinction to the ontological question about the possibility of mental causation.

Tired of talk about talk, many philosophers in the latter half of the century turned to substantive questions. Moreover, this return of ontology in the latter half of the century was not a mere adjustment of emphasis within the framework of Kant's Copernican turn, in the manner of phenomenology's slogan 'back to the things themselves'. The return of ontology in the latter half of the century was a return of real metaphysics, a significant departure from Kant's transcendental turn as well as from the linguistic turn.[18]

The completeness of physics raises an ontological claim about causation. As Crane puts it "if the completeness of physics is true, then there is one special kind of cause...completeness of physics is a claim about causation."[19] The new rise of ontology was the logical outcome of the physicalist commitment to explanatory closure. "The received view of the latter half of the twentieth century is that the reasons-causes debate has an ontological dimension which was simply overlooked by a generation of philosophers in the grips of an 'ordinary language' fashion."[20]

Davidson changed the way philosophers think about the mind-body connection, arguing against the "logical connection argument" in "Actions Reasons and Causes". He will claim that there is a conceptual connection as much as there is real connection between the reasons and the actions they explain. But his "anomalous monism shows an ontological bias only in that it allows the possibility that not all events are mental, while insisting that all events are physical."[21] According to this position, the natural has an absolute priority over the mental, the former considered given, the latter defective.

The debate about the cognitive prevalence between reasons and causes after the ontological backlash of philosophy seems to promote the causalist side. Equation of reasons with causes by Davidson, that seems to put an end in the philosophical debate that starts with Collingwood and the philosophy of history, about the nature of causal and logical explanations and the possibility of reductionism, does not restore humanities' claims, because it is overwhelmed by a physicalistic prejudice. Although reasons become causes, that does not mean the equation of physical sciences domain with that of sciences of the mind, but the recedence of the latter, to the small and

[17] Ibid., 407.

[18] Ibid., 404.

[19] T. Crane, *Elements of Mind* (Oxford: Oxford University Press, 2001), 60.

[20] D' Oro, 407.

[21] Donald Davidson, *Essays on Actions and Events* (Oxford: Clarendon Press, 1980), 214.

relatively new physicalistic field. Human action becomes bodily movements caused by beliefs and desires, creating events outside the body.

The physicalistic consequences of this 'anomalous reductionism' have received enough criticism for their explanatory competence. Anscombe whose conception of world is not physicalist, considers the agent-world connection richer than causal, and considering the physicalistic picture poor, she writes:

> "If we now think in terms of, say, some sort of elementary particles and the operation of the fundamental forces recognized by physics, the very descriptions which occur in physiology may seem to be descriptions of shadows. I mean that the movement of a shadow has not any reality that has been left out once you have described the successive occlusion of light from a continuum of areas of a surface. Now what are we to think of the causal histories of human dealings of such a kind as we have mentioned? Are they so to speak shadows on shadows?"[22]

Thomas Nagel claims that "physicalism is based ultimately on a form of idealism: an idealism of restricted objectivity. Objectivity of whatever kind is not the test of reality. It is just one way of understanding reality."[23]

McDowell sketches the naturalist view as "made available only by a hard won achievement of human thought at a specific time, the time of the rise of modern science. Modern science understands its subject matter, in a way that threatens at least, to leave it disenchanted, as Weber put the point in an image that has become a commonplace."[24]

At the heart of this disenchantment, eliminative materialism, as the 'hard core' of biomedical sciences, states in the words of Jaegwon Kim that "the rapidly developing and expanding 'cognitive science' will likely supersede the vernacular so that at some point in the future the rational thing to conclude is that there are no such things as beliefs and desires and there never were."[25] Churchland also in terms of reductivist materialism claims that "the propositional attitudes of folk psychology do not constitute an unbreachable barrier to the advancing tide of neuroscience."[26]

Experimental neurophysiology and modern genetic science, in the context of physicalism and eliminative materialism, according to Habermas, "do not touch on this or that difference in the great variety of cultural forms of life, but on those

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[22] G. E. M. Anscombe, *Human Life, Action and Ethics* (Exeter: Imprint Academic, 2006), 95-96.

[23] Nagel, *The View from Nowhere*, 26.

[24] John McDowell, *Mind and World* (Cambridge: Harvard University Press, 2000), 70.

[25] Jaegwon Kim, "Mechanism and Explanation", In *The Philosophy of Action,* edited by Alfred Mele (New York: Oxford University Press, 2003), 280.

[26] Paul Chutchland, "Eliminative Materialism", in *Philosophy of Mind,* edited by Timothy O'Connor and David Robb (London and New York: Routledge, 2003), 411.

intuitive self descriptions that guide our own identification as human beings" and so "advances of genetic engineering affect the very concept we have of ourselves, as cultural members of the species of "humanity"- to which there seems to be no alternative" they consist a wound in the "ethical self-understanding of the species, which is shared by all moral persons." [27]

The reason why causes conflict interests in Bioethics is because it leaves behind a monist peace agreement (reasons are causes), which nevertheless bestows the greatest part of reasons territory on physical sciences. Naturalism and reductivism lead the galloping technology's research. The deep strata of beliefs remain either reductivist or causalist in the field of natural sciences or non reductivist and anti-causalist in the field of humanities. Maybe that is what stands behind the relatively narrow impact of bioethical principles worldwide in every day practice. Biomedical scientists with deep beliefs in causal laws governing their discipline face ethics like lifesavers for legal problems they may face while practicing, or at least like weird intruders in their territory whom they are obliged to obey, because of new social practices. The outcome of this cultural conflict giving priority to sciences over humanities, cannot serve to frame Bioethics as a third culture where the two cultures are not supposed just to coexist in the same environment, but they are obliged to collaborate affecting each other, almost creating a new discipline.

New ideas of transdisciplinary and public consensus that affect essentially the scientific research program are in need to form the rules of this new discipline.

III. Bioethics as a transdisciplinarity endeavor

Teaching humanities in biomedical disciplines is not an optional but a constitutive parameter for the competence that scientists must acquire to practice in these fields. The need for humanistic education of scientists obtains agreement by all the participants in bioethical endeavor.

It is easy however to adopt some kind of teaching of humanities in biomedical disciplines but how easy is it to create a new coherent transdisciplinary framework? It's easy to understand transdisciplinarity between sciences of nature, because despite the differences they may have, they all fall under the causal laws, so they all have the same external framework of causality. When transdisciplinarity has to operate between natural sciences and the so- called sciences of the mind, as in Bioethics where ethical principles have to cooperate with scientific processes of the highest level and determine the final research program under ethical and societal constraints, new transdisciplinarity rules are needed that fall under causal and ethical constraints and obtain public consensus.

The transdisciplinarity endeavor is common in new disciplines that require reevaluation of societal needs and societal and ethical approval for their practice.

[27] Habermas, *The Future of Human Nature,* 39-40.

Biomedical research and practice is the leading paradigm, and ecological research on energy, sustainability of ecosystems, water supplies, and other new research areas follow.[28]

> "The knowledge production process in these areas presupposes integration of preexisting scientific disciplines and worldviews. We can distinguish between reductionist and contextual views of integration. According to the reductionist view, knowledge should ultimately be put in a formal framework and thus be universally recognizable and to a large extent exchangeable across contexts. According to the contextual view, knowledge is composed of different configurations and validated practices that emerge as a result of agents' learning within their natural and/or societal contexts....In this worldview both social and natural science knowledge are interdependent and inseparable aspects of the same knowledge."[29]

In natural sciences the predominant view is reductionist and physicalist but in Bioethics there is need for a contextual view because there is a predominant practical request that has to take into account the societal interests that have precedence over theorizing. Finally, in research with societal impact that affects directly ethical interests of citizens, "the gap between science as the active knowledge producer and society as the passive recipient in the knowledge production process will need to be replaced by a process of co-design and co-production of knowledge."[30]

Transdisciplinarity has two main theoretical positions. One expressed by Erich Jantsch[31] and another more recent and often mentioned in transdisciplinarity discourse by Mittelstrass.[32]

Jantsch claimed that "the classical single-track and sequential problem solving approach itself becomes meaningless today" and he proposed a top-down transdisciplinarity organization that would lead transdisciplinarity at the ultimate level of coordination.[33] Coordination follows horizontal principles within each level and vertical principles between levels and sub-levels.[34] This is how the top- down ultimate level of coordination will be reached. This model seems more compatible

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[28] Wolfram Mauser, et al, "Transdisciplinary Global Change Research: The Co-creation of Knowledge for Sustainability", *Current Opinion in Environmental Sustainability* 5 (2013): 421.

[29] Mauser, 423.

[30] Ibid.

[31] Erich Jantsch, "Towards Interdisciplinarity and Transdisciplinarity in Education and Innovation", *Interdisciplinarity – Problems of Teaching and Research in Universities*, ed. Leo Apostel, 97-121 (Paris: OECD, 1972).

[32] Jürgen Mittelstrass, "On Transdisciplinarity", *Trames* 15, no. 4 (2011): 329–338.

[33] Jantsch, 117.

[34] Mauser, 424.

with contextual views of integration.

Mittelstrass on the other hand claims that

> "... interdisciplinarity, understood rightly, is not merely an alternation between the disciplines, nor is it hovering over them, like Hegel's absolute spirit. Rather, it undoes disciplinary rigidities whenever these obstruct the formation of problems and corresponding research-based actions; in reality, then, it is transdisciplinarity...transdisciplinarity is intended to imply that cooperation will lead to an enduring and systematic scientific order that will change the outlook of subject matters and disciplines."[35]

This seems more a bottom-up transdisciplinarity organization more compatible with the reductionist views of integration. He insists though that transdisciplinarity does not lead to new disciplines, it just transverses the boundaries of historic subjects and disciplines which have lost their problem-solving capacities because of an excessive specialization, in a world that "wants to use rather than admire science."[36] It seems that this reductionist and bottom-up model concerns mostly the intra-natural sciences problems and responds to the call for *unity of nature* and he calls it "theoretical transdisciplinarity that originates from more strictly scientific problems." But what can be done when a scientific work needs to solve non-scientific problems that need a more contextual approach? Mittelstrass answers to this question by discriminating between theoretical and practical transdisciplinarity "that makes reference to problems foreign to science." Bioethics seems to fall under the *practical transdisciplinarity* and so according to Mittelstrass the disciplines that collaborate to solve bioethical problems, "contribute with their specialized knowledge to the solution of these problems, and a wise and efficient coordination, but not an extension or transformation of these disciplines, is required."[37] Practical transdisciplinarity serves argumentative unity this way.

In the context of bioethical transdisciplinarity, controversies are increasingly framed as moral rather than scientific. These disputes are often highly political and frequently center "not only on how much science should be practiced but on whether some types of scientific inquiry ought to be pursued at all."[38] Boundary organizations as public Bioethics bodies are formed internationally, as transdisciplinary advisory committees whose credibility is based on ethicists, lawyers, scientists, policy makers, sociologists and other related experts, who act in this transdisciplinary frame across

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[35] Mittelstrass, 331.

[36] Ibid., 332.

[37] Ibid., 336.

[38] Susan E. Kelly, "Public Bioethics and Publics: Consensus, Boundaries, and Participation in Biomedical Science Policy", *Science, Technology, & Human Values* 28, no. 3 (2003): 341.

roles as "hybrid" experts.[39] Public Bioethics bodies seek societal consensus and according to an OTA report[40], their function is described as "to articulate common values and foster consensus about biomedical advances in the face of cultural and religious heterogeneity." So what public consensus adds in transdisciplinarity Bioethics apart from the integration of science and ethics, is taking into account the diverging ethical beliefs of different cultures in a multicultural society. It is an *overlapping consensus* procedure, which according to Rawls theory, regulates competing views of the good among free and equal citizens in a democratic society ruled by the political conception of justice.

We will next examine moral philosophy's and biomedical science's integration in a transdisciplinary field, as a new linguistic framework, while investigating Carnap's internal-external questions and Collingwood's absolute-relative presuppositions distinction.

IV. External questions and absolute presuppositions

What logical positivism (early Carnap included) and antipositivism have in common is the demand of a universal criterion of scientific advancement and a common belief in the unity of scientific work. They both 'stand' on a privileged vantage point or "master narrative". "In the case of the positivists it is from the "observational foundation" building up in the case of the antipositivists it is from the theoretical 'paradigm', 'conceptual scheme', or 'hard core' looking down.[41] Mature Carnap's external internal distinction and Collingood's absolute and relative presuppositions seem to abandon the illusion of any vantage point. They can both be interpreted as overpassing the reason-causes debate and the possibility of reductionism as long as these matters are operational as internal questions to, or relative presuppositions of, a linguistic context.

a. Carnap

Mature Carnap seems to quit the request of an autonomous system of logical syntax and recognizes that syntactic analysis of language must be supplemented by semiotic analysis which after 1936 seems to be his main philosophical interest. In "Empiricism, Semantics, and Ontology" (1950), he distinguishes between questions within a linguistic framework which are legitimate, and questions about the framework as framework that are external and in "need of closer examination".

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[39] Ibid., 344.

[40] Office of Technology Assessment, U.S. Congress, *Biomedical Ethics in U.S. Public Policy –Background Paper,* OTA-BP-BBS-105 (Washington, DC: U.S. Government Printing Office, 1993), 7.

[41] Galison, 307.

Empirisists, he writes, have a problem with abstract entities as "they feel much more in sympathy with nominalists than with realists (in the medieval sense) ...a mathematician is said to speak not about numbers, functions and infinite classes but merely about meaningless symbols" while physicists are also suspicious of abstract entities.[42] In this article he aims at subverting this long standing empiricist's prejudice on abstract entities.

> "Recently the problem of abstract entities has arisen again in connection with semantics, the theory of meaning and truth. Some semanticists say that certain expressions designate certain entities... Others object strongly to this procedure as violating the basic principles of empiricism and leading back to a metaphysical ontology of the Platonic kind. It is the purpose of this article to clarify this controversial issue. The nature and implications of the acceptance of a language referring to abstract entities will first be discussed in general; it will be shown that using such a language does not imply embracing a Platonic ontology but is perfectly compatible with empiricism and strictly scientific thinking."[43]

He recognizes the possibility of speaking about a new kind of entities, but to do so "he has to introduce a system of new ways of speaking, subject to new rules". He will call this procedure "construction of a linguistic framework for the new entities in question". Making the construction more explicit he introduces the internal- external distinction:

> "And now we must distinguish two kinds of questions of existence: first, questions of the existence of certain entities of the new kind within the framework; we call them internal questions; and second, questions concerning the existence or reality of the system of entities as a whole, called external questions. Internal questions and possible answers to them are formulated with the help of the new forms of expressions. The answers may be found either by purely logical methods or by empirical methods, depending upon whether the framework is a logical or a factual one. An external question is of a problematic character which is in need of closer examination."[44]

The metaphysician is the one asking external questions that are illegitimate. But as we already said it seems not to exist a privileged point for the metaphysician

[42] Rudolf Carnap, "Empiricism, Semantics, and Ontology", *Revue Internationale de Philosophie* 4 (1950): 21.

[43] Ibid., 1.

[44] Ibid, 23.

outside the linguistic framework he works in. So his questions are unanswerable or pseudo-questions. For example calculating questions about numbers, i.e. how much is so and so, are internal to mathematicians' framework and have legitimate answers, while questions about the existence of numbers may be either internal, and so they have legitimate, trivial answers (like: of course numbers exist), or be external and unanswerable. And they are unanswerable because they concern the reality or a platonic ontology of numbers. The metaphysician asks in reality whether numbers exist outside and independently of the framework or if the numbers' framework really exists, committed so to a Platonism.

D'Oro says that internal-external distinction has the following implications:

> "... first, that our ontological commitments are dependent upon the adoption of a linguistic framework...second... we ought to be ontological pluralists [as a] result of framework pluralism combined with the view that there is no framework-independent ontological viewpoint... third, and crucially, the internal/external distinction alters the status of the principle of verification."[45]

According to Carnap's semantic investigation on the possibility of new linguistic frameworks, which has a pragmatist origin (like integrative Bioethics) whichever language we adopt must have the features of "efficiency, fruitfulness, and simplicity of the use of [this] Language... and the questions concerning these qualities are indeed of a theoretical nature. But these questions cannot be identified with the question of realism."[46] "The system of rules for the linguistic expressions of the propositional framework is sufficient for the introduction of the framework" and any further explanations are theoretically unnecessary because they follow from the rules.[47] The pragmatist origin of this endeavor becomes explicit when he asks the question of whether or not to accept the new linguistic forms and answers: "The acceptance cannot be judged as being either true or false because it is not an assertion. It can only be judged as being more or less expedient, fruitful, conducive to the aim for which the language is intended."[48] So we can form new linguistic frameworks (or new disciplines) as new entities. And "the introduction of the new ways of speaking does not need any theoretical justification, because it does not imply any assertion of reality."[49]

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[45] Giuseppina D'Oro, "Unlikely Bedfellows? Collingwood, Carnap and the Internal/External Distinction", *British Journal for the History of Philosophy* 23, no. 4 (2015): 802-817.

[46] Carnap, 25.

[47] Ibid.

[48] Ibid., 33.

[49] Ibid.

Although in this text Carnap uses as examples of linguistic frameworks physics and mathematics, we can legitimately extend the internal-external distinction in all the areas of philosophy. Every new or old area of philosophy and science uses abstract linguistic forms for the purposes of analysis, interpretation, clarification or construction of languages of communication. No physicalist quest for 'completeness of physics' or a commitment to 'explanatory closure' can limit the scope of frameworks. Beginning with Plato and Aristotle to C. S. Peirce and Frege the great majority of philosophers accepted abstract entities.[50] And every modern or classical philosopher and scientist can ask legitimate or illegitimate questions. Not even Carnap's past companions, positivists of the Vienna Circle, avoid this rule. "The Circle rejected both the thesis of the reality of the external world and the thesis of its irreality as pseudo-statements.. (It is obvious that the apparent negation of a pseudo-statement must also be a pseudo-statement)."[51] Carnap nevertheless falters to accept the term 'metaphysics' for his study of external or illegitimate questions as Collingwood does for his study of absolute presuppositions. Collingwood also charges natural scientists (although supposedly against metaphysics) for metaphysical beliefs (according to his definition of metaphysics as a study of absolute presuppositions) : "when natural scientists express hatred of 'metaphysics' they are usually expressing this dislike of having their absolute presuppositions [metaphysic beliefs] touched."[52]

The acceptance of a new kind of entities (like Bioethics) is accompanied by the introduction of a framework of new linguistic forms used according to a new set of rules which will be tested by

> "... their efficiency as instruments, the ratio of the results achieved to the amount and complexity of the efforts required. To decree *dogmatic prohibitions of certain linguistic forms* instead of testing them by their success or failure in practical use, is worse than futile; it is positively harmful because it may obstruct scientific progress. Let us grant to those who work in any special field of investigation the freedom to use any form of expression which seems useful to them...Let us be cautious in making assertions and critical in examining them, but tolerant in permitting linguistic forms."[53]

b. Collingwood

Although Collingwood and Carnap belong to different philosophical traditions

[50] Ibid., 41.

[51] Ibid., 34.

[52] R. G. Collingwood, *An Essay on Metaphysics* (Oxford: Oxford University Press, 1948), 44.

[53] Carnap, 41.

they share a contextual or linguistic framework view. So Carnap's and Collingwood's treatment of metaphysics share common characteristics, although the former's originally positivist stance leads to a suspicion of metaphysics as external questions, while the latter is known to defend the possibility of metaphysics against Ayer's attack. They use a (surprisingly) relative distinction, the former of internal-external distinction the latter of absolute and relative presuppositions.

Collingwood in *An Essay on Metaphysics* defines the word 'science', in its "original sense in the international language of European civilization" as "a body of systematic or orderly thinking about a determinate subject-matter" calling the equation of the term 'science' with 'natural science' as a 'slang' use of the world.[54] So it is obvious from the start that his metaphysics concern any science, which according to his definition can either be natural science or any branch of the so called humanities. He will then clarify Aristotle's First Science, *πρώτη φιλοσοφία,* or Wisdom, *Σοφία*, or Theology, *Θεολογική*, by which he makes it possible "for anyone who understands his vocabulary to grasp without further explanation, how he conceived that science's nature."[55] By extracting from Aristotle's metaphysical program, "two propositions about the nature of metaphysics: that it is the science of pure being, and that it studies presuppositions" he finally claims that he has shown that there cannot be a science, or a quasi-science or even pseudo-science of pure being, in this way clearing his metaphysics from any ontological claim and rendering them at the same time a theory about presuppositions.[56] "The priority affirmed in the word presupposition is logical priority."[57] He thinks that logicians paid too much attention to connections between thoughts and neglected a possible theory of presuppositions[58], which he calls metaphysics, the possibility of which Carnap will deny as constituted of pseudo-questions.

Collingwood adopts the terms *propositions* and *presuppositions*. To illuminate the relation between them and their status in the framework they coexist he will expound the following propositions[59]:

- Every *statement* that anybody ever makes is made in answer to a question.
- Let that which is stated (i.e. that which can be true or false) be called a *proposition*.
- Every question involves a *presupposition.*
- A presupposition is either *relative* or *absolute*.

[54] Collingwood, 4.

[55] Ibid., 6.

[56] Ibid., 20.

[57] Ibid., 4.

[58] Ibid., 23.

[59] Ibid., 23-33.

- By a relative presupposition I mean one which stands relatively to one *question* as its presupposition and relatively to another question as its *answer*.
- An absolute presupposition is one which stands, relatively to *all questions* to which it is related, as a presupposition, *never as an answer*.
- Absolute presuppositions are not propositions.

Propositions answer to questions while presuppositions define which questions can be asked. So propositions can have true or false answers, while absolute presuppositions have not because they have the role to define the questions to be asked and so they are not questionable, they are part of the operating system of questioning. The logical efficacy of an absolute presupposition is independent of its being true. The distinction between truth and falsehood does not apply to absolute presuppositions at all.

> "Putting the same point differently: absolute presuppositions are never propounded... I mean that to be propounded is not their business; their business is to be presupposed. The scientist's business is not to propound them but only to presuppose them. The *metaphysician's business*, as we shall see, is not to propound them but to propound the proposition that this or that one of them is presupposed."[60]

Absolute presuppositions according to Collingwood serve as an outer limit of the possible questions. Causality in medicine is such an absolute presupposition. Carnap falters to accept the term 'metaphysics' for the external questions because he bestows to this term ontological claims or Platonism, while Collingwood adopts the term metaphysics for the study of absolute presuppositions[61] of linguistic frameworks. But neither the latter is allowing ontological claims. His study is more like an elucidation[62] about the use of language inside the borders of 'language games' or 'forms of lives' and the questions that can be asked about them.

But if we avoid any kind of Platonism or realism what can save a new linguistic framework (Bioethics in our case) from relativism? For Carnap it seems to be a belief that the analytic synthetic distinction penetrates the different frameworks as these discriminations are supposed to penetrate all rational activity. For Collingwood D'Oro says that his absolute presuppositions "are not universally valid: different forms of inquiry have different absolute presuppositions. Their applicability however is limited not to time and place but to the forms of enquiry which they make

[60] Ibid., 33.

[61] "The analysis which detects absolute presuppositions I call *metaphysical analysis*". Collingwood, 40.

[62] "To ask questions with skill, or scientifically... there are two stages. The first is disentangling, the second is arranging." Collingwood, 38.

possible."[63] His absolute presuppositions seem for her to be not universally *a priori*, as a Kantian apriority would demand, but rather in the linguistic framework they define. Collingwood is taken so to be a contextualist that takes absolute presuppositions to be relative to forms or modes of inquiries rather than to time and place. But Collingwood himself answers to a possible accusation of relativism, which could be grounded on considering the changes of his absolute presuppositions in each context merely 'changes of fashion'. His answer reminds what Kuhn will later describe as 'paradigm shift':

> "People are not ordinarily aware of their absolute presuppositions and are not, therefore, thus aware of changes in them; such a change, therefore, cannot be a matter of choice. Nor is there anything superficial or frivolous about it. It is the most radical change a man can undergo, and entails the abandonment of all his most firmly established habits and standards for thought and action... absolute presuppositions of any given society, at any given phase of its history, form a structure which is subject to 'strains'.. If the strains are too great, the structure collapses and is replaced by another."[64]

From his answer becomes obvious that changes of absolute presuppositions may be subjected to societal or historical constraints, but these are not made by chance, they are subjected to rational constraints also as Carnap's analytic synthetic distinction is.

What are the possible implications of Carnap's internal-external distinction and Collingwood's absolute and relative presuppositions for Bioethics' transdisciplinarity we are investigating? The implications of dependency on linguistic framework pluralism combined with the view that there is no framework-independent viewpoint on one hand, and the absolute presuppositions that are not limited to time and place but to the forms of enquiry which they make possible on the other, can help us sketch a possible bioethical framework where moral philosophy and biomedical science can exist together, having the same presuppositions and the same internal questions defined by the same external frame. This framework is defined by the obligation to take into account a conception of good while calculating what is true. There are anyway inherent normative constraints on science, as also historical or societal ones that affect the scientific program.

Richard Rorty sharing pragmatist quizzicality with Carnap and Collingwood on one hand and contextuality and a sense of historical and societal constraints on frameworks with Collingwood and Kuhn on the other, well known for his ambition to span analytic and continental philosophy, considering them fellow travelers in a *civitas*

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[63] D'Oro, "Unlikely Bedfellows?", 7.

[64] Collingwood, 48.

pelegrina[65], adopts the term *cultural politics* or the *paradigms* or *linguistic frameworks* to describe philosophy. Rorty feels sympathetic to William James' pragmatism. According to Rorty "James often comes close to saying that all questions, including questions about what exists, boil down to questions about what will help create a better world."[66] Rorty describing suspicion of pragmatism sounds like describing scientific suspicion of Bioethics:

> "People who are suspicious of pragmatism argue that preventing scientists from doing experiments to find out whether intelligence is genetically transmissible, or to find out whether a neutron bomb is feasible, on the other hand, is to sin against truth... we should separate practical questions.... from the straightforwardly empirical questions just as we divide the question of whether we *can* build a neutron bomb from the question of whether we *should*."[67]

In his *arena of cultural politics,* several such conflicts arise and "there are no grand philosophical principles that can help us solve such problems". Rorty seems to side with James in that "truth and reality exist for the sake of social practices, rather than vice versa"[68], thus setting practical philosophy and natural science in a contextual frame.

Our investigation does not of course respond to the problems of Bioethics' foundation as a new linguistic framework or the justification of its principles. What we did through the examination of Carnap's internal-external and Collingwood's relative-absolute presuppositions distinction is just sketch a way to understand this innovative endeavor as Snow's third culture that demands both natural science and humanities to collaborate in the formation of a new discipline.

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[65] Richard Rorty, "Introduction", in *Empiricism and the Philosophy of Mind,* ed. Wilfrid Sellars (Cambridge and London: Harvard University Press, 1997), 12.

[66] Richard Rorty, *Philosophy as Cultural Politics. Philosophical Papers, Volume 4* (New York: Cambridge University Press, 2007), 5.

[67] Ibid.

[68] Ibid., 7.

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