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THE HISTORICIZATION OF NATURE AND THE  
NOMOLOGIZATION OF THE MENTAL, OR THE RAP-  
PROCHEMENT BETWEEN THE NATURAL AND THE  
HUMAN SCIENCES

1. INTRODUCTION

The nature of the distinction between the natural sciences (*Naturwissenschaften*) and the human/spiritual sciences (*Geisteswissenschaften*) has been the subject of intense philosophical debate at least since the late 1880's, when the *Methodenstreit* over the method of economics divided the representative of the Austrian school Carl Menger from the German historical school, led by Gustav von Schmoller. It is important to remind ourselves of that debate at the beginning of this paper, since the root of the distinction between natural and human sciences has often involved the scope and role of history in the description of the world around us. Or better said, it has involved the pivotal role of laws, or empirical generalizations in the natural sciences, *to be contrasted* with the absence of laws and the centrality of unrepeatable historical events in the human sciences.

In a word, the key argument of those who have defended and still defend the existence of a radical methodological distinction between the natural and the human sciences can be put as follows:

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since the mind and thought of human beings lie outside the domain of natural laws, *human sciences* like economics, sociology, linguistics, anthropology, etc. ought *not* to be concerned with the discovery of empirical generalizations, but rather deal with the study of particular, unrepeatable events, arranged in an historical narrative.

In this paper I will argue that, if formulated in this way, the distinction between natural and human sciences is untenable. The reason is simple: on the one hand, history has penetrated the natural sciences and, on the other, empirical, causal generalizations have invaded the realm of the human mind, and therefore of the human sciences, beginning from psychology. In a nutshell, the idea that human beings are merely cultural products that at birth are like a *tabula rasa* and that they, thereby, *have no nature* is simply illusory and self-deceptive, and I daresay even dangerous for a better organizations of our societies.

In what follows, first I will show why history has penetrated the natural sciences in a process of “historicization of nature” (section 2), and then argue that laws have entered also the field of the human sciences, in a process of “nomologization of the human mind”, whereby I mean that also the human mind falls, in part or completely, under the scope of natural and social laws (section 3). Since the existence of psychophysical laws has often been taken to threaten our allegedly free will, in final part of the paper I will discuss the consequence of the nomologization of the mental for this age old metaphysical issue (section 4).

## 2. THE HISTORICIZATION OF THE NATURAL SCIENCES

“*Nothing in Biology Makes Sense Except in the Light of Evolution*” is a 1973 essay written by the evolutionary biologist and Russian Orthodox Christian Theodosius Dobzhansky.<sup>1</sup> Today very few biologists, and only some creationists still attached to the idea that the world has been created in the fall of 4004 bC, would disagree with

<sup>1</sup> T. Dobzhansky, “.....”, *American Biology Teacher* 35 (1973), pp. 125-129.

this statement. Dobzhansky himself, incidentally, was criticizing anti-evolutionary creationism and advocating a form of evolutionary theism. Among other things, Dobzhansky's famous statement entails that *biological evolution ought to be considered an enormously complex historical fact*, and Darwinian evolution a way to *explain* that fact by giving its inner mechanism or driving force.

Clearly, I am not interested here in defending Darwinian evolution against "intelligent design" type of attacks, but simply in putting forward the claim that if nothing makes sense in biology except in light of evolution, then it follows that biology, a natural science, is an historical discipline not *too* different from human, civil history. Very often biologists are interested in reconstructing past transitions between species, regarded as unique and unrepeatable events, in the same sense in which historians are interested in shedding light on the transitions between two different historical periods. In both cases of course, many or even all traces of the past may have been completely lost.

The situation in physics is certainly different, but not *so* different from biology. Cosmology and geology are physical as well as historical sciences, in the sense that they are interested in illuminating irreversible, unrepeatable, and unique events, the formation of galaxies and stars of the unique, observable universe on the one hand, and the formation of the Earth on the other.<sup>2</sup> It must be admitted that in order to do so, they can rely on physical laws that are much less complex than the laws, if any, that are at work in the biological and the human/social world. "*Less complex*" in this context means that the events, say, of galaxies formation, or of star formations, or of planets formation, are much more similar to one another than the events characterizing the origin of new species. The latter, in fact, call into play the changing environment, migration, genetic drift, genetic mutations, as well as many other factors that may make one speciation very different from another.

However, I presume that there is no simple system of equations governing the continental motion of Laurasia and Gondwana, the

<sup>2</sup> The formation of galaxies and stars of our universe is unique provided the universe does not repeat its cycle endlessly.

two parts that formed after the split of the Pangean supercontinent during the late Mesozoic era (200 millions years ago). Nor is there a simple system of equations modelling the formation of the solar system (a unique event) out of disperse gases: the whole process is mainly to be regarded as nomological as well as historical. Likewise for the predicted clash between our galaxy and Andromeda, in 3 billions years or so: the event in question may well be unique in its manifestation, although the laws that govern the motion of the galaxies are fundamental to predict the result and simulate the events on our computer.

Clearly, the events of human history are even more diverse among each other than the biological events of speciation. However, even if my point would need more arguments, which here cannot be given, I think it is reasonable to put forward the claim that rather than dividing the natural from the social sciences, history or more precisely, the notion of evolution, should now be regarded as a *trait d'union* between them. While at the beginning of the 19<sup>th</sup> century Hegel could still claim that nature did not have any history, but could only undergo abstract, circular change, at the beginning of the 21<sup>st</sup> century we know better. Even cosmology, the science of the large scale structure of the universe, is fundamentally based on the concept of evolution, and while there might be many universes with different physical parameters from our own (the multiverse hypothesis put forth by Alexander Vilenkin)<sup>3</sup>, we still have to consider the evolution of the observable universe, *our* universe, as unique. After all, our universe it is the only universe we have direct epistemic access to.

### 3. THE NOMOLOGIZATION OF THE MENTAL: EMPIRICAL FINDINGS

Looking at the question from the opposite process of the “nomologization of the human”, a brief mention of Rizzolatti’s

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<sup>3</sup> A. Vilenkin, *Many Worlds in One, the Search for Other Universes*, Hill and Wang, New York, 2006.

empirical findings concerning the mirror neurons, as well as a reconsideration of the main philosophical arguments against the existence of psychophysical laws, will suffice.

Starting with the former, the so-called mirror neurons are motor neurons located in the premotor cortex, and have the characteristic of firing both when monkeys perform an action and when they observe someone else performing it while remaining still. Rizzolatti and collaborators have discovered that whenever monkeys *observe* someone grasping, pulling, pushing, or cracking a peanut, their mirror neurons fire only when the animal recognizes the specific purpose of the action that has been observed. “Observe”, note, refers to a *psychological* act ~~or event~~ of the monkey, while the firing of neurons refers to a neurological/physical event: I take it that correlations of this kind constitute very strong evidence for the existence of psychophysical laws in monkeys.<sup>4</sup>

Thanks to experiments with PET (positron emitted tomography) and fMRI (functional magnetic resonance), we now know that the same findings apply to humans. For instance, Marco Iacoboni and many others have convincingly shown that mirror neurons are essential to explain our capacity to understand and predict someone else’s intentions.<sup>5</sup> In addition, we should consider the role of empathy and of emotions in ethics, and the very plausible fact that we understand the emotions of other people also by relying on mirror neurons.<sup>6</sup>

Given this amount of empirical data, it seems difficult to avoid the conclusion that, *pace* Donald Davidson, there are *psychophysical* or *psycho-neurological* laws correlating what *humans perceive about other people’s behaviour, and the amount of electrical activity of their ventral premotor areas, which is the region where mirror neurons are located*. One need not mention recent fields like *neuropolitics* and *neuroeconomics* in order to become convinced that the growing

<sup>4</sup> An argument of this kind has been originally pointed out by Vincenzo Fano in his contribution to a discussion after Rizzolatti’s conference at the Italian Society of Logic and Philosophy of Science meeting in Milan, 2007.

<sup>5</sup> M. Iacoboni, *Mirroring People: The New Science of How We Connect with Others*, Farrar, Stroud and Giroux, New York, 2008.

<sup>6</sup> G. Rizzolatti, C. Sinigaglia, *So quel che fai*, Cortina, Milano, 2004.

importance of neurophysiology in explaining the biological basis of our social behaviour is the best argument in favour of the view that human beings are indeed subject to psychophysical laws, and do not float completely free above the constraints of nature. As Rizzolatti and Sinigaglia put it:

even certain processes typically considered of superior order and attributed to systems of cognitive kind, like perception and recognition of someone else's action, imitation and signs or vocal communication, may call into play the motor system and find in it their neural *substratum* (2006, p. 22).

The present findings support the hypothesis that mirror neuron activation could be at the basis of action recognition: we now know that intentions (psychology) and motion as controlled by the ventral premotor cortex are strictly interrelated.

Evidence gathered from Chomsky's linguistic theory also points in the same direction, one in which human nature and human culture are interdependent and interconnected: our language ability is written in our genes, despite the fact that the right stimulation from the environment is needed for the "language instinct" to flourish. Not only Descartes, but also Plato would have certainly approved this way of conceiving the role of the environment *vis à vis* our innate capabilities.


### 3.1 *The Nomologization of the Mental: Conceptual Arguments*

It is quite ironical to note that, once again, empirical research has refuted some *a priori* based philosophical theorization. In our case, such a theorization was targeted against the existence of psychophysical laws. According to Davidson's influential claim, for instance, it is not possible for psychophysics (and psychology) to be "real sciences", because their laws (if they existed) would, unlike those of physics, be valid only *ceteris paribus*.<sup>7</sup> Taking for granted the empirical refutation sketched above, it is instructive to go over

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<sup>7</sup> D. Davidson, "Mental Events", in *Essays on Action and Events*, Oxford U.P., Oxford, 1980, pp. 207-227. For the problem of *ceteris paribus* laws, let me refer the reader to M. Dorato, *The Software of the Universe*, Ashgate, 2005, English transl. of M. Dorato, *Il software dell'universo*, Bruno Mondadori, Milano, 2000.

the argument once again, so as to discuss the “weak ring of the chain”, which is its second premise. This discussion will also reveal some of the typical prejudices of philosophers *vis à vis* physics in its relation with the human sciences, and will teach us something about a possible but neglected way of conceiving the relationship between the physical and the mental.

Davidson’s first premise has it that “there are causal relationships between events described as physical and events described as mental.” The second premise, in Davidson’s words, states that that  to ? there are no strict laws relating events under physical descriptions with events under mental descriptions.” The third premise corresponds to the so-called nomologic conception of causality: “if two events are related as cause and effect, there is a strict law covering the case.”<sup>8</sup> The argument concludes with the so-called *anomalous monism*, which is also known as the *theory of the token-identity* of the mind, a view implying that every *particular* mental event is identical to a *particular* physical event, but excluding at the same time the possibility of identifying *types* of mental events with *types* of physical events.<sup>9</sup> According to Davidson, there is only *one* substance in the universe, describable by physics, but the *anomaly* of the mental is precisely given by the absence of laws linking mental events to other mental events and to physical events. While all events are physical, a few of these events (the mental ones) also allow for a psychological description, which, because of a lack of psychophysical “bridge laws,” is *irreducible* to the language of physics.

The first premise about the causal relationship between mind and body is evident, and granted by virtually all participants in the debate. For example, when we *observe* in awe a comet moving across the night sky, we explain the perception by a *casual* interaction between an object susceptible to being described in language of physics (the comet), and an event described in the language of psychology (the state of wonder accompanied by the awareness of the percep-

<sup>8</sup> D. Davidson, “Laws and Causes”, *Dialectica* 2 (1995), p. 266.

<sup>9</sup> The distinction between type and token is simply explained: in the name “Otto”, there are two *tokens* of the letter type “o” and two tokens of the letter type “t”, but just two *types* of letter, “o” and “t”.

tion.) The converse is true as well; when we want to drink some water, a *mental state* (the desire to drink) *seems to cause a physical state*, in the sense that the movement of our feet appears to be the consequence of our intention to drink. Therefore, causal relationships exist between mental events (as described by the language of psychology, which imply believing, desiring, or hoping for something, etc.) and events described by the language of neurophysiology or of physics (here and in what follows, we will have to take into account that, in the discussions on the mind-body problem, the term “physics” often refers to “neurophysiology”).


One way to interpret such common causal relationships is of course to argue in favor of the existence of psychophysical laws, as I have done above. This, however, is not Davidson’s path: according to Davidson, in fact, the causal relationships between mind and body do *not* presuppose psychophysical laws. In fact, the mental universe is characterized by the so-called “holism of beliefs and of meanings,” as well as by standards of norms (rationality among them) that we use in order to interpret the behaviour of others; *holism* and *normativity* are two factors that *cannot* be found in the physical world.<sup>10</sup> The fact that these two factors characterize our mental lives *essentially*, and that they are not available to the physical world, for Davidson is sufficient to conclude that laws that are both *strict* (i.e., lacking in exceptions and *ceteris paribus* clauses) and acting as a bridge between the mental and the physical cannot exist. In virtue of the third premise, affirming that every causal relationship presupposes the existence of a law, the absence of psychophysical laws, together with the existence of causal relationship between the mental and the physical, implies that every mental event must intervene to constitute a strictly universal physical law, and must therefore be describable also in physical language. In other words, *every*

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<sup>10</sup> The holism of beliefs means that any proposition like, “the cat is on the rug” cannot be believed without believing many other things about felines, floor coverings, other animals, houses, huts, etc. at the same time. The same can be said for the meanings of terms in natural languages. For the normativity of the mental, consider that when we interpret phrases said by others or we try to interpret their beliefs or desires, we tend to maximize their *rationality*, which is a *normative ideal*.

*particular mental event is also a physical event*, but types of mental events are not identical to types of physical events, since the type identity theory would require the existence of psychophysical laws.

For the purpose of invalidating the “anomalous” conclusion of the argument, it would therefore be sufficient to prove that the second premise is false. This premise, in effect, relies on what I take to be an erroneous interpretation of the laws of physics, based on their presumed “universality”, i.e., “validity without exception”: the existence of physical laws without *ceteris paribus* or *ceteris absentibus* clauses can only be part of the “fictional physics” of which a few philosophers render themselves co-authors. Also physical laws in fact hold only when certain idealized conditions obtain, so they hold in absence of friction, for inextensible pendulums, small angles, homogenous gravitational fields, etc. It is not by chance that Davidson does not cite a single example of a strict law (a law holding without restricting clauses, or possible intervening or “pre-emptive” factors). Such factors can be counted as “exceptions” similar to those occurring in behavioural sciences: *two masses attract with Newton’s laws* is true to the facts unless the bodies are ~~just~~ two, they are not charged, etc. . . . in the same sense in which

*a hungry person is irritable* is true to the facts, unless she has eaten well, has a good temperament, etc. The difference in the two cases is only a difference in degree, and not a difference between strict, exceptionless laws on the one hand, and lawlessness or weak empirical generalizations on the other.  The absence of a sharp distinction between strict laws and *ceteris paribus* generalizations, there can be no argument against the existence of psychophysical laws and Davidson himself has recently admitted that this distinction, which he still defends, “is essential to his argument”.<sup>11</sup>

Clearly, if non-trivial psychophysical laws existed, they would have to be considered valid *only in a relative way*, that is, relative to *particular species*. Despite predictable elements of similarity between genetically similar species (as monkeys and humans for mirror neurons), it would not be plausible to imagine that, for example, the mental state “pain” occurs in the exact same way in every species

<sup>11</sup> D. Davidson, “Law and Cause”, citation, p. 266.

with a nervous system. A relativization of psychophysical laws to different species, a constraint that must be regarded as indispensable also in the discussion of biological laws, would be sufficient to respond to antireductionist arguments, which are often raised on the basis of the principle of multiple realizability of mental states by physical states.<sup>12</sup>

Since the second premise of Davidson's argument has been refuted, we must accept that assertions like

"The production of dreams in human beings is correlated to rapid eye movement (REM) and to an increase in corporeal metabolism," or like

"Emotional states of the human body are correlated to an increase in electrical conductivity in the skin,"

are genuine instances of psychophysical laws. The problem now becomes that of establishing whether psychophysical generalizations of this kind are instances of *laws of succession*, or causal laws – for which certain mental states bring about *later* underlying neurological states, or *vice versa* – or are rather instances of *laws of coexistence* between *simultaneously* occurring mental and neurophysiological types of events. A solution to this neglected question seems extremely important also for the vexed question of free-will, which is clearly connected to the alleged "lawlessness" of the minds of humans. I suspect in fact (even though this is not true for Davidson) that many explicit or tacit resistances against tearing down walls artificially separating the natural and the human sciences – and therefore against introducing laws creating bridges connecting the mental with the physical – is the threat that such laws would pose to our free will.

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<sup>12</sup> For bibliographical references and the illustration of this thesis, as well as for a clear presentation of the problem of mental causality, see J. Kim, *Mind in a Physical World*, The MIT Press, Cambridge (Mass.), 1998. For a recent defence of the type-identity theory between mental and neurophysiological events, see S. Gozzano, *Pensieri Materiali*, Utet, Torino, 2008.

#### 4. PSYCHOPHYSICAL LAWS AND THE THREAT TO OUR ALLEGEDLY FREE WILL

Suppose then that psychophysical laws exist and that they exclusively constituted by laws of coexistence rather than laws of succession: could this hypothesis make us escape from the standard difficulties generated by the debate between compatibilist (deterministic) and incompatibilist (indeterministic) positions about the existence of free will? What is very important for our subsequent discussion is to bear in mind that laws of succession relate events that, as hinted above, are *temporally successive to one another*, while laws of coexistence relate events that are *simultaneous in space*. Now, Determinism or Indeterminism can be formulated in a meaningful sense only by having at one's disposal laws of succession, linking temporally separated events. One cannot construe Determinism or Indeterminism in the non-temporal setting of laws of succession: Determinism and Indeterminism require time.

Granting instead that psychophysical laws are laws of succession, the following dilemma can be construed. If human actions were subject to psychophysical laws of succession, the latter would be either deterministic or indeterministic.<sup>13</sup> In the former case, they would causally depend, at least in principle, on events that occurred before we were born, and we would literally not be able to originate our actions. In this hypothesis, freedom would only consist of our being able to do what we wanted, but not in our being able to act or choose in a way that could be different from what we in fact chose or in fact did (the Principle of Alternate Possibilities). As a distinguished supporter of the conception of freedom affirms: "an action is free if the motives or impulses of the agent are a link in the causal chain of that action. Those motives and those desires may be as rigidly determined as we want ...".<sup>14</sup> This is a typical instance of a **compatibilist** position: Determinism and free will are compatible, as

<sup>13</sup> Universal determinism predicts that a state *S* which occurs at *t* time is compatible only with a single other state of the world, at any other future or past time, while indeterminism admits more possible states compatible with *S*.

<sup>14</sup> W. Quine, *Theories and Things*, Cambridge U.P., Cambridge, 1981, p. 11.

long as “being free” means being able to act according to rigidly determined desires and intentions. Clearly, if someone forces me to raise my hand, or a neurological mechanism forces me to nod when someone questions me, these do not count as free actions, because they are not expressions of my consciously formulated intentions. By being paradigm of constrained “motions”, they do not even count as actions.

If instead the laws connecting mind and body were irreducibly probabilistically, blind chance would prevail upon our attempt to remain “faithful” to our characters and consciously formulated maxims. In this hypothesis, indeterminism would introduce an element of independence of our actions, at times stronger than other times, from *what has already occurred*, but only at the price of separating our present actions from our past values, values defining what we are and what we want to become. Can the decision not to lie under oath be the result of a random mechanism, like that exemplified by radioactive decay? If the process leading to important decisions were *literally uncaused* – as in the case of the emission of radioactive particles at a particular time rather than another – it is clear that we could not say that we were free. If instead the cause in question were probabilistically, how much independence from the past would be necessary to remain faithful to what we are or to our identity, given that the latter has an essentially *historic* nature?

Even a partial, minimally “probabilistic” independence from the past would separate us, to a proportional degree, from the most profound values we cherished before the action. On the other hand, if the independence from the past were *complete*, we could not originate a causal chain *ex novo* – as Kant required in order for us to be “free” – without violating the Principle of the Causal Closure of the physical world. This Principle affirms that if a physical event has a cause or an effect, it must have a physical cause or effect, on pain of violating the law of conservation of energy.<sup>15</sup>

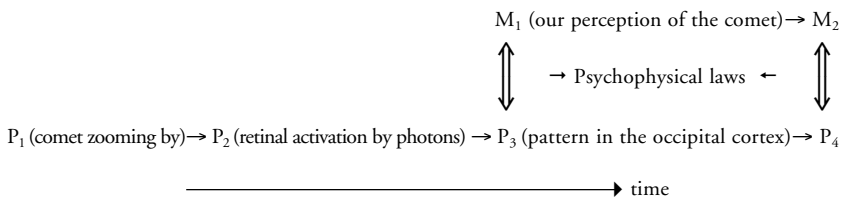
<sup>15</sup> For a more detailed treatment of these questions, let me refer to M. Dorato, *Futuro aperto e libertà. Un'introduzione alla filosofia del tempo*, Laterza, Rome-Bari, 1997 and to M. Dorato, “Determinism, Chance and Freedom”, in H. Atmanspacher and R. Bishop (eds.), *Between Chance and Choice*, Imprint Academic, ..... 2002, pp. 339-369.

In sum, it would seem that *if* psychophysical laws had to be conceived as laws of succession, they would have to be either deterministic or indeterministic, and in both cases we would not be free. To the degree that we believe that our intuition irrefutably assures us of the fact that we *are* responsible for our actions, and therefore free, from the antecedent of the conditional expressed at the beginning of this paragraph, one could even be tempted to deny the existence of psychophysical laws by *modus tollens*. A move that seems blocked by the empirical evidence in their favor referred to in the previous section, which also points to the fact that emotions (bodily states) have an essential important role in decision making.

However, it has not been observed that one way to escape from the conclusion of this argument would be to refute one of its tacit premise: it is not true that all laws are either deterministic or indeterministic, given that these two characterizations can only be applied to nomological relationships holding between temporally successive states of a system. In short, *without laws of succession, we would have neither determinism nor indeterminism*: if psychophysical laws were pure laws of coexistence, we would have no reason to worry about our freedom, because we would escape the dilemma of the previous paragraph by eliminating the problem. Of course, this hypothesis needs to be substantiated by further empirical research, and cannot be defended only in virtue of its possible desirable consequences for the problem of free will.

It could be retorted that – despite the manoeuvre of claiming that psychophysical laws are laws of succession – the problem of justifying human freedom in a monistic conception of the mind-body relationships remains. In accepting the existence of causal interactions between our minds and physical events in the external world (the first premise of Davidson’s argument, which, as argued above, ought to be accepted) not only is one left just with laws of succession between timelike-related events, but also with the additional problem of justifying the causal efficacy of the mental *qua* mental. Let us briefly discuss these two objections in turn and then turn to the conclusion.

Beginning with the first, we could schematically represent the situation thus:



Suppose that, in accord with Davidson's third premise, causal relations (symbolized by the arrow  $\rightarrow$ ) presuppose laws. Then the causal chain of physical events  $P_1 \rightarrow P_2 \rightarrow P_3$  exemplify very complex laws of *succession*, with time going from left to right. It could still be true that the correlation between the mental event  $M_1$  and the physical event  $P_3$  just instantiates a psychophysical law of coexistence (symbolized by the double arrow and meaning that the two events  $M_1$  and  $P_3$  are simultaneous). But now the second objection raises its head: if the chain of physical events at the bottom is linked by causal relations and if the nomological view of causation is correct, then all the causal efficacy of mental events seems somehow parasitic on physical events. This would entail that a mental event like  $M_1$  could cause a physical event like  $P_4$  only indirectly, that is, *via* its nomic connection with  $P_3$ . Then how can we exclude that, in reality, the mind functions no differently from the fly in Aesop's fable? In this fable, the fly (the mind) deludes itself into believing that it can tell the mule (the body) where to go, when in reality it is the mule that is transporting it. Could not it be that the mechanisms that control action and those that are responsible for our conscious thoughts are at least partially unrelated and independent from each other? For instance, we now know that when we pull the brake of our car to avoid a cat, the motor system acts before our being aware of the action.<sup>16</sup>

In order to tackle this second objection, I think it is fair to say

<sup>16</sup> See B. Libet, *Mind Time: the Temporal Factor in Consciousness*, Harvard U.P., Harvard 4.

that it is only future empirical research that can shed some light on this important question. By using some probability argument based on what we know so far, it seems highly improbable that evolution endowed highly intelligent mammals with a property – consciousness – that is *completely* causally inert. But does consciousness act via laws of succession or laws of coexistence?

First of all, it must also be admitted that even indirect causation *is* causation. Second, supposing that psychophysical laws of coexistence can be regarded as identity claims between types of mental events and types of physical events, the question of the efficacy of the mental *qua* mental evaporates. Identification of the mental with the physical does not entail elimination of the former in favor of the latter. When we claim that light *is* electromagnetic radiation, or temperature is mean molecular motion, we do not eliminate light. Analogously, types of mental events are causally active because they *are* identical with physical events.

However, this solution has a price: by transforming psychological laws of coexistence into identity claims, one could in principle explain our behaviour just by looking at the bottom line of physical events illustrated above  $P_1 \rightarrow P_2 \rightarrow P_3 \dots$ : the prevalence of laws of succession backing these causal relations would raise the question of the alternative determinism/indeterminism once again.

The only defensible line at this point would be the following: since the dyad determinism/indeterminism necessarily presupposes laws, one could still deny the nomological conception of causation, by defending the claim that one can have causal relations between events without laws. This would rule out the applicability of the above dilemma determinism/indeterminism to human actions, at least to the extent that determinism and indeterminism presuppose *laws*.

If also this move were to prove purely formal and therefore useless, I would simply recommend accepting determinism, with all its standard compatibilist consequences. As long as we are capable of controlling (deterministically) our bodies as normal persons do, the fact that the chain of our desires is deterministically fixed by previ-

ous events must be accepted as an unavoidable consequence of a scientifically informed conception of a human being.<sup>17</sup>

## CONCLUSION

Be that as it may with our freedom, it seems fair to conclude the paper by noting that Wilhelm Windelband's old dichotomy between the *nomothetic*, law-seeking, natural sciences, and the *idiographic*, historically-oriented, human sciences is a matter of degree and not a radical one, and might even be dropped as untenable. If a distinction remains, it has no methodologically important consequences for the unity of the scientific enterprise.

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<sup>17</sup> For a more detailed defence of this claim, I dare refer the reader once again to note 15 and to my paper "Il dibattito tra compatibilisti e libertari tra metafisica e pragmatica: perché si deve abbandonare la prima per abbracciare la seconda", in R. Calcaterra (ed.), *Le ragioni del conoscere e dell'agire*, Quodlibet, Macerata, 2006, pp. 267-276.