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A PROCESS-ONTOLOGICAL ACCOUNT OF WORK

ABSTRACT. This essay offers a process-ontological account of work, addressing two challenges in particular. First, I try to show that even though the phenomenon of work is extremely diverse, all occurrences to which the word ‘work’ correctly applies – according to the current semantic intuitions of the relevant linguistic community – share the feature of being: *the creation of something of value*. Second, guided by this initial conceptual delineation of the phenomenon, I argue that traditional ontology would face fundamental difficulties in giving an ontological analysis of work, which can be surmounted in a Whiteheadian framework. I take Whitehead’s analysis of an actual occasion as a model for an analysis of work that explains how toil (exertion of effort) can result in the accomplishment of a desired end. On this basis of this explanatory model the complex dynamicity that we experience in work as the creation of something of value can be accounted for in the well-defined terms of an ontological theory.

Work is one of the most important aspects of our lives. We spend most of our waking life working – if not to make a living, then to bring about some other desired changes, such as making our surroundings more pleasant, learning something, practicing a skill, or producing and enjoying works of art. That we have to work is a natural consequence of the fact that we, as organic beings, are not self-contained, but dependent on our surroundings. Therefore, it is when we work that we are most fully aware of ‘being alive’ and of our ‘human condition’, most aware of who we are, of our capabilities, our environment, and of how we are related to that environment. In other words, work is not only our means of survival, but also a very important dimension of self-experience and experience of the world.

It is therefore surprising that work has not received much attention as a subject of ontological analysis. This may in part be due to the fact that work has a social dimension, which quickly transforms an ontological analysis into a political one. For example, Marx and Hegel have given ontological accounts of work, but these accounts are quickly overshadowed by the political and ideological proclamations intertwined with the ontological analysis.

I see two other and more decisive reasons why work has not received much attention as a subject of ontological analysis, residing in the subject matter itself: (1) The extremely diversified nature of the phenomenon of work makes it very difficult to tackle the concept in a coherent and consist-



ent manner. (2) Work is a dynamic phenomenon, and traditional ontology is not well-equipped to deal with dynamic phenomena.

These latter two aspects of work are not insurmountable obstacles, however, but merely challenges to a satisfactory ontological analysis. In this paper I shall present an account of work that attempts to meet them. In the first part of the paper, I shall characterize and classify various kinds of work. In the second part, I shall explain and utilize Alfred N. Whitehead's process-ontological scheme to provide an ontological analysis.

1. THE CONCEPT OF WORK

Let us begin with a simple rehearsal of semantic intuitions. During all the following activities we consider ourselves to be working: cooking, building objects, making music, tilling the soil, studying, negotiating, picking trash, designing an airport, designing a web page, conducting a scientific experiment, giving or taking orders, applying formulas, etc. Further, some activities like dancing, having sex, and making conversation could in some cases be considered work. Some very personal acts and deeds that involve only a few people in an intimate context can also qualify as work. For example, we 'work on' a relationship, or on our friendship, or our family. In this context, writing a letter, making a tape for someone, paying a visit, remembering occasions and buying gifts, trying to communicate, trying to understand and forgive, helping can all be work. Doing a beautiful deed such as saying encouraging words to someone who is in despair perhaps is not work, but has a lot in common with it. On the other hand, the following are not work: sleeping, lying in the sun, eating, drinking beer, playing backgammon, taking a walk, watching the sunset, watching an action movie, some of the reading and music-listening we do, chatting to a friend about this and that, 'hanging out', relaxing, bar-hopping, etc.

Given the extremely diversified nature of all the phenomena to which the word 'work' applies, is there a justification for grouping them all under the same name? Some have argued that it is more appropriate to speak of a family resemblance, claiming that an activity like work, which is "complex, highly variable, and meaning-dependent on the individual", cannot be "made into a simple, invariable activity of universal meaning" (Pence 1978/79, p.310).

Standard dictionaries resort to a disjunctive strategy:

1. [work is an] activity in which one exerts strength or faculties to do or perform something **a.** sustained physical or mental effort to overcome obstacles and achieve an objective or result **b.** the labor, task or duty

that is one's accustomed means of livelihood **c.** a specific task, duty, function, or assignment often being a part or phase of some larger activity.¹

Dictionaries also draw attention to the diversified semantic field governed by 'work' and a host of 'near synonyms' such as 'labor', 'travail', 'toil', 'drudgery', etc. which reinforces the impression that this field is organized by 'family resemblance' rather than clear cut genus-species relations. 'Labor' involves "great and often strenuous exertion"; 'travail' involves 'pain and suffering' and 'drudgery' is 'dull and irksome'. In *The Human Condition*, Hannah Arendt attempts a more thorough distinction between work and labor. According to Arendt, labor is 'life-sustaining' activity concerned with 'animal life' whereas work is 'world-building' activity concerned with the specifically 'human life'. While work produces objects for use which become part of a human world, labor produces objects for consumption and therefore cannot make a tangible durable contribution to the human artifice.

Another dimension of diversification enters the picture when we consider the social area of the semantic field. Dictionaries remind us of conceptual distinctions between activities engaged in remuneratively in earning one's living. These distinctions are based on various factors, ranging from the personal meaning of the activity for the individual to whether the activity is imposed by someone in authority or not. For example, 'job' is defined as "small miscellaneous piece of work undertaken on order at a stated rate"; 'calling' is defined as "occupation viewed as a vocation or profession"; and so on.²

While the position that only family resemblance connects the various instances of work seems well-justified, others have found it easy to locate what all these various instances have in common. Work has been characterized – not fully in earnest, one might suspect – as "first, altering the position of matter at or near - the earth's surface relatively to other such matter; second, telling other people to do so".³ More seriously one might take the description of work as 'human activity which takes existing conditions and transforms them so that the new conditions more completely satisfy our needs and desires' (Okrent 1978/79, p. 322).

In fact, the various ways in which work has been conceived throughout history can be reduced to two basic meanings: misery and toil (*molestia*), accomplishment (*opus, opera*) (Lowith 1967, p. 261). Even though Arendt distinguishes *operae* – the mere activity –, from *opus* – the work – and refers to the former as "toil and effort", such a distinction fails to take notice of, or at least obscures, the inherent connection between activity, exertion of effort, toil (*operae*) on the one hand, and the product (*opus*),

on the other – i.e., that the exertion of effort is constitutive of the achieved end.

I believe that the best way to approach the topic is by devising an ontological account that is arguably broad enough to cover the instances of all varieties of work yet structured enough to formulate the differences between these varieties.

Later, in the second part of this paper, I will make use of Whitehead's ontology to demonstrate the connection between exertion of effort and the achievement of the objective, thus proving that the various concepts of work can be reduced to the two basic meanings of toil and accomplishment, which can further be shown to be connected to each other. Since the desired end (the objective accomplished) is arguably something of value and the exertion of effort is constitutive of that result, I contend that what characterizes the phenomenon of work in general is the creation of something of value.

1.1. *Classificatory parameter*

In a second step, after an initial exploration of semantic intuitions and various attempts of explicating them, let us now reconstruct the content of our concept of work in a more organized fashion. The point of departure for such an enterprise is the thesis I just introduced, namely, that all the variegated phenomena discussed above can be brought under the heading of 'work', understood as 'the creation of something of value'. This will become clearer if we place these phenomena into a matrix spanned by two descriptive perspectives, answering to the questions of (1) why we work and (2) how we work. These two perspectives correspond to the two components of the definition of work suggested. The first perspective corresponds to the desired end – the value aimed at. The second perspective corresponds to the expenditure of effort.

1.1.1. *Why we work*

In order to bring the first classificatory perspective into view, it is important to draw two distinctions. First, we need to distinguish between the proximate end and the final/ultimate end of a work activity. The ultimate end can be the continuance of life (as in the case of labor) or anything else that is considered an end-in-itself – in other words, anything that contributes to the good life (as in the case of art). The proximate end is the production or performance of anything that is instrumental to another end. This distinction is not absolute, but is rather a matter of degrees, with some proximate ends more removed from the final end than others. Building shelter, for example, more directly aims at life as its end than a job held in a company.

The second important distinction is between the value that work has for the individual engaged in the activity and the value that our work has for others. That for the most part we do not work to satisfy our needs and desires on our own but engage in massive cooperation on a social or even global scale requires us to maintain two different perspectives at once: the point of view of the individual and a bird's eye view of the social system as a whole. A person's motivation to perform a certain work task and the social function of that performance frequently do not correspond to each, the prime examples being tele-marketers or blue-collar workers at a weapons factory. Therefore, we need to break the question of why we work at least into two parts: (a) Why do we, as individuals, engage in a certain work activity? (b) What role does our work have in the system as a whole? Since the distinction between proximate end and final/ultimate end is not absolute, in answering questions (a) and (b), I will refer directly to the final end.

(a) The question "why do we, as individuals, work?" has three answers I think: we work (a1) for direct survival (e.g., fishing, hunting); (a2) for money, which can be for indirect survival (making a living), attainment of other desired objects, and/or for power and status; (a3) to change things for the better (which also includes intrinsic satisfaction from self-expression involved in the change). (a1) and (a3), or (a2) and (a3) are not mutually exclusive; they can overlap.

(b) The second question concerns the role our work plays in the whole. Here, there are two or three possible answers: (b1) for the system's livelihood – which is why it, at once, has a place in the system and is our livelihood, too. (e.g., engineering, irrigation, transportation, insurance, government); (b2) not just for maintaining the system but for making it good – i.e., not just for life, but for the good life.

With respect to the first descriptive perspective, then, we can classify occupations by creating possible combinations of answers (a1–3) and (b1–2). (W1) There are work activities which serve the direct needs of the individual and of the embedding social system. For example, a custodian, a truck-driver, a burger flipper, a factory worker, a tax collector, a civil engineer, accountants, managers, electricians, plumbers, cashiers, reporters, merchants, butchers, policemen all work to make a living while they keep the wheels turning by providing food, housing, security, maintenance, transportation, communication, and other necessary goods and services. (W2) In some cases, while someone does something for intrinsic satisfaction or to make a change for the better, it is conducive for society at large. An architect or an engineer, a doctor, a lawyer, a teacher, a computer programmer, a judge, an advertiser, or a journalist may derive intrinsic

satisfaction from their work, while they contribute to providing health care and education, maintaining the justice of the system, transferring information, and so on. (W3) Someone can do her work to make a change for the better while it contributes to the good life (e.g., scientists, philosophers, writers, dancers, actors, directors, comedians, musicians, etc.). (W4) Someone can work to make a living while her work contributes to the good life (e.g., a factory worker producing luxury items, a tour guide, people who work at movie sets, a waiter, a gypsy who sells flowers, etc.) (W5) Finally, there are those cases where the work we do for ourselves has no social significance (e.g., cooking my favorite dish for myself).

1.1.2. *How we work*

In attempting to classify work activities with respect to the second descriptive perspective answering to the question of how we work I will consider the following factors: (1) the presence of a model of the desired end; (2) the types of medium; (3) interaction with other agents; and (4) faculties and skills that are used.

1.1.2.1. *The presence of a model.* While work is by definition teleological and most work is performed under the guidance of a model, some work activities appear to lack this teleological structure. For example, consider the activity of a cashier at a supermarket, a factory worker at an assembly line, or someone flipping burgers at a fast food restaurant. One might thus want to make a distinction between teleological and non-teleological kinds of work.

In fact, the presence or absence of a guiding model in the process of a work activity is one of the main criteria by which Arendt distinguishes between work and labor. According to Arendt, work is performed under the guidance of a model, and it is this model as an end that organizes the means and the process of work. Hence, the process of work is linear, and at the end of the activity, the process disappears into the finished product (Arendt 1958, p. 140). In contrast, since labor is caught in a cycle of production and consumption and therefore leaves no tangible marks behind, the process of labor is cyclical; in labor, the “process consumes the service” (ibid., p. 87). Since labor’s productivity is measured in terms of reproducing life and not in terms of the “qualities or the character of the things it produces” (ibid., p. 87), labor does not introduce any novelty into the world; it merely restitutes a certain set of states or a certain process structure.

However, it is misleading to associate non-teleological activities with activities whose end is the continuance of life. A doctor’s aim is the continuance of life, but it could not be claimed that she works without the

guidance of a model. Even a laboring activity like farming is rationally planned. Babysitting consists of a long series of finite tasks, but there is a model for each task. We therefore need to distinguish, instead, between continuance of life as an end and the continuance of the same activity as the (proximate) end. It is the latter which appears to take place without a model. Division of labor creates this appearance. When the work process is compartmentalized, the vision of the project might get lost to the individual agent, and the proximate end of the activity for the individual becomes filling the 8-hour stretch of time from the moment of punching in to the moment of punching out. But from a bird's eye view of the system, the activity is part of a process that is guided by a model even if, from an individual's point of view, activities that aim at continuance of the same situation may appear to be non-teleological.

1.1.2.2. *The medium.*⁴ All work takes place in a medium whether that medium be earth and seeds, test tubes and burners, or tags, text files and pictures. The various types of media can be grouped into four categories: organic nature, inorganic nature, symbols (words, signs, numbers), and sounds and images.

The organic medium can be plants, animals, other people, or ourselves. Work activities that take place in this medium include farming (plants and animals), teaching and medicine (other people), and sports (ourselves). The inorganic medium includes forces of nature (wind, water, etc.) as well as matter. Construction and production of physical objects (houses, factories, cars, clothes, etc.) take place in this medium. Physical objects might also be constructed with the further end of utilizing forces of nature (such as building windmills, dams, canals).⁵ Most white collar workers and academicians (accountants, scientists, writers) work in symbols, even though in many instances these symbols are applied to/translated into other types of media. Finally, artists (film directors, musicians, dancers, etc.) work in sounds and images.⁶

1.1.2.3. *Interaction with other agents.* Some types of work such as some arts, crafts, and professions, are performed in solitude. Others are performed in interaction with other people. Of those performed in solitude, some are nonetheless performed for a social end. For example, a translator may work in solitude, but she might be working with and for someone else, such as a pharmaceutical company. The work of a gardener tending her plants, on the other hand, involves no interaction with others.

The interaction involved in non-solitary work activities can be classified into two groups: social and communal. By 'social work', I mean work that

involves division of labor (not division of labor in civil society in general, but division of labor in one particular workplace, such as a factory). In such cases, the workers contribute to the same outcome, but without controlling the process through interaction with each other. In communal work, in contrast, the agents work towards the realization of a goal in interaction with each other. The production of a symphony, a play or a movie and teamwork in a soccer game are such examples.

1.1.2.4. *Skilled vs. unskilled work.* A more important distinction among work activities with respect to how we work concerns the use of faculties involved. The first distinction that comes to mind is between physical and mental work. However, this distinction on its own is not very telling since the work of the mind and the body cannot be easily separated from each other. Physical work is not necessarily simpler or more trivial than mental work (e.g., a surgeon performing an operation). Thus, it may be more useful to make a classification in terms of the complexity of the skills involved, such as abstraction, imagination, technical and analytical skills, or dexterity.

In economics, a common problem with the labor theory of value is “the need for an explanation of the wage differentials of different types of labor” (Bowley 1973, p. 96). Since labor theorists of value hold labor to be the measure of value, they must assume that all labor is homogeneous. The higher wage that skilled labor receives is explained by the labor cost of extra training or differences in natural ability (Blaug 1968, p. 116). But this appeal to a ‘difference in natural ability’ remains entirely obscure. The Whiteheadian analysis of a work process which I shall present now also furnishes an explanation of the distinction between skilled and unskilled work.

2. PROCESS ONTOLOGY

2.1. *Traditional ontology’s shortcomings*

The most important reason why I believe that the subject of work has not received much attention as a subject of ontological analysis is because traditional ontology is not as well equipped to deal with dynamic phenomena in general.

Moreover, work is a dynamic phenomenon posing a particular difficulty. Work is not only a continuous progression towards a goal but it has a complex dynamic structure where main and subgoals can be recursively modified and other processes (consumption, enjoyment) are engendered in

the process of production. Since traditional ontology takes static entities as basic, it can merely describe a series of states of affairs that gradually represent closer approximations of the desired state, but it cannot make sense of a continuous progression towards that state, let alone the continual modifications of the manifest goings on by feedback loops and other elements of a complex, hierarchical dynamic organization. Traditional ontology can present only snapshots of a linear development where the desired end is conceived of as something static and separate from the process of production and processes connected to it. A process ontological account, on the other hand, can take the end-result as a set of interactive relations (with its past and future), thus allowing for a more inclusive description of work, holding out the prospect to account not only for typical productions like the building of a table, but also highly interactive forms of work such as psychological counselling in group therapy or brain storming sessions of the company's management.

Further, the traditional divisions in ontology between domains of fact and domains of value discount from the outset the very idea of a realization of value. Traditional ontology can describe work as the production of a desired object or state of affairs, but then cannot explain the interaction of different existential types – i.e., how something that is desired but does not yet exist (value) is brought into existence (fact).

2.2. *A Whiteheadian account*

In a Whiteheadian framework, the connection between exertion of effort and the bringing about of something of value can be accounted for rather straightforwardly. Yet, there is one problem in presenting a Whiteheadian account and that has to do with his terminology. Since Whitehead consciously avoids the concepts and conceptual metaphors of traditional ontology, his terminology is highly idiosyncratic. Therefore, our account must be prefaced by an introduction to the ontological framework.

2.2.1. *A Whiteheadian framework*

The framework I shall sketch here is not Whitehead's but Whiteheadian, since in several places I assume without argument certain readings of Whiteheadian terms that are controversial interpretations. For present purposes it suffices to introduce the basic elements of this framework.

2.2.1.1. *A process of concrescence.* In contrast to traditional ontology, Whitehead's ontology takes processes as basic. The primary unit of being in his ontology is what he terms 'an actual entity'. The actual entity, a 'process of concrescence', is a process of many diversities growing into a

new unity (Emmet 1932, p. 41). There is much controversy as to whether ‘an actual entity’ designates a sub-atomic occasion or *any* entity that constitutes a processual unity, such as a tree, a human being or a table. I take the latter position: quite independent of scale, any set of processes can exhibit the kind of organization that characterizes actual entities.

2.2.1.2. *Prehensions*. Every actual entity constitutes itself by incorporating various elements of the environment out of which it is arising into a new unity. The dynamic connection through which any one element becomes appropriated or excluded by the becoming entity is called a ‘prehension’. The choice of the term ‘prehension’ is probably intended to indicate that a prehension is a process that is much like apprehension except that it does not necessarily involve consciousness (Hartshorne 1972, p. 125). It is modeled on an intentional mental act, but is not restricted to mental acts; prehension is ‘information transfer’ in the most general sense of the term. For instance, we can think of a snail as prehending the rock it is moving on or a piece of paper as prehending the charcoal touching it. It is important to note that a prehension is not “a merely static and mechanical link” (Emmet 1932, p. 87) but a *transaction*. In Whitehead’s words, it is “referent to an external world, and in this sense [has] a vector character” (Whitehead 1967, p. 28).

Since the actual entity does not appropriate all the elements of its environment, but leaves some out, Whitehead divides prehensions into two species: positive prehensions and negative prehensions. When an element is negatively prehended, it is excluded from the concrescence in the making, whereas an element that is positively prehended becomes a component in the internal constitution of the becoming entity. A positive prehension is also called ‘a feeling’.

2.2.1.3. *Subjective aim and eternal objects*. The actual entity is a dynamically organized complex process whose unity is created in the making, not as an accidental result but as the result of a goal-driven process. Thus, even though an actual entity can be analyzed into its prehensions, Whitehead takes the actual entity and not the prehension as basic, because the reason why an entity appropriates some elements in its environment and leaves others out cannot be accounted for with respect to the prehension itself alone. The explanation for why certain elements are prehended, and others left out, refers to the *subjective aim* of the concrescence. The subjective aim, which is basically a final cause, is Whitehead’s principle of individuation for actual entities. Thus, the actual entity has a teleological

and self-referential structure – teleological, because it is goal-driven; and self-referential, because it is self-creative.

Since the subjective aim is what triggers the process, however, it itself cannot be entirely in the making. Rather, it is given to the actual entity through what Whitehead calls “*eternal objects*”. An eternal object is a potentiality – a notion that is fundamental to process philosophy.

Eternal objects are universals, like Platonic forms, determining the definiteness of the processes in which they are realized. However, unlike Platonic forms, eternal objects are both immanent and transcendent. The realization of an eternal object in an actual entity is not a distortion of a perfect form in a transcendent realm; when an eternal object is realized in an actual entity, the eternal object is actually in that entity. As a potentiality, however, the eternal object is transcendent. Eternal objects are patterns of some defining characteristics, but as such, they can be abstracted from the processes they qualify; “what an eternal object is in itself . . . is comprehensible without reference to some one particular occasion of experience”.⁷

Another difference between eternal objects and Platonic forms is that eternal objects are relational. Eternal objects can be simple or complex. Simple eternal objects define the relation between the becoming entity and the objects it prehends; they explain how the subject prehends the object, and in that function, they are what we call ‘qualities’ (e.g., a color). A complex eternal object is a group of eternal objects, related to each other in a determinate way. Complex eternal objects serve to explain what we call essence or abstractness. In short, eternal objects define potential or actual relations among the actual entities that are in a concurring entity’s environment.

Both eternal objects and the subjective aim are potentialities. The difference between an eternal object and a subjective aim is that while eternal objects are completely general, the subjective aim concerns particular subjects. For that reason, eternal objects are also called ‘pure potentialities’, while the subjective aim is an ‘impure potential’. In other words, while facts are *physically* prehended, eternal objects are *conceptually* prehended, and the subjective aim is a hybrid of physical and conceptual prehensions. For example, while a certain melody is a pure potential, that melody being played through a particular instrument is an impure potential. When thought of in terms of work, it is the difference between a pure possibility that is entertained and a possibility that is adopted as a project in a certain setting.

The subjective aim should be thought of more in terms of a tentative objective than a strict blueprint. Therefore the final form of the process (its

subjective form) will differ from its subjective aim. The entity approaches the realization of its goal, not by directly realizing a complex eternal object, but by gradually realizing an increasing number of eternal objects while trying to integrate them with each other and with actual entities. This process is best explicated by bringing into play Whitehead's concept of contrasts.

2.2.1.4. *Contrasts.* In the process of appropriating and integrating various prehensions into its own unity of form, the actual entity forms what Whitehead calls 'contrasts'. By 'contrast', Whitehead in fact means unity. In a contrast, two or more elements are brought together, compared as well as contrasted, and, if they are compatible, synthesized. If they are incompatible one or more of them are left out.

As the process advances towards its goal, more contrasts can be formed among previously formed contrasts, thus yielding structures of greater complexity. As an example, one can here imagine the composition of a piece about a storm. The piece starts with the xylophones representing raindrops. Then the xylophones are contrasted with the tambourine, signaling impending trouble. As the piece advances, more instruments are introduced forming further contrasts. As stated above, during these phases, the subjective aim may be modified. Nevertheless, the concreting entity prehends its own aim with a certain intensity, an intensity which increases as more contrasts are formed and the process comes closer to realizing its goal.

While the intensity of a process is proportionate to the number of contrasts formed between eternal objects, the number of eternal objects realized are limited by conditions of compatibility. Whitehead calls the conditions for compatibility "the demand for balance".

The intensity of a process is also due to conceptual reversions, which account for creativity and novelty.

2.2.1.5. *Conceptual Reversions.* We have seen that the realization of an eternal object in an actual entity is the actualisation of a possibility. Typically, the realization of a possibility takes place through the prehension of an eternal object that is already realized in a previous actual entity. For example, the blue-gray color in a painting comes from the sky; it is already realized in the sky, and the painter abstracts that color as potentially realizable in another entity – i.e., the painting. But in choosing to actualize a certain potential, the entity has avoided other alternatives. The sky could have been a different shade of blue. In a conceptual reversion, an unrealized possibility that a previous entity has avoided is prehended. This means

that a conceptual experience is derived without the physical experience to match it. For example, someone else, contemplating this painting, is able to prehend that different shade of blue that has not been realized in actuality.

In such cases, the question of where potentialities are located becomes especially puzzling. How can we account for the prehension of eternal objects that one has not come in physical contact with? One explanation is that eternal objects are ordered in a certain relevance “independently of their joint exemplification” in reality (Kraus 1979, p. 110) so that the prehension of an eternal object that one comes in physical contact with (via an actual entity it is realized in) may prompt the prehension of a related one. A conceptual reversion brings about the prehension of an as yet unrealised potential when that potential is “partially identical with and partially diverse from” a potentiality that is realized (Whitehead 1967, p. 40). The idea is that if all that one physically came in contact with were vertical and horizontal straight lines, for example, one might still be able to imagine vertical lines that make curves, based on a spectrum of lines ranging from straight vertical on one end of the spectrum to straight horizontal on the other.

2.2.2. *Applying the framework: An ontological analysis of work*

The dynamic, teleological and self-referential structure of an actual entity parallels the complex structure of a process of work, which may contain all or some of the features explained above. In work, one forms, in light of the subjective aim, contrasts between certain data and conceptually prehended alternatives, occasionally eliminating some, performing conceptual reversions to arrive at others, and modifying the subjective aim as necessary along the way.

In applying the Whiteheadian framework, I take the worker in interaction with her medium to be *one* process of concrescence. In other words, work is a relational affair with one relatum: the product in the making. The worker and the materials that she works with are *antecedent* actual entities that are now entering a novel unity with various components of each other. This novel entity in the making is the final product aimed at by the work process. One might here object that, in the end, the worker emerges intact from the work process; thus, the final product cannot be a unity of parts of the agent and the material. It is true that the worker does not necessarily and explicitly lose body parts or mental faculties in the process, though she might, and usually gradually does. As a matter of fact, Karl Marx describes the laboring process as expenditure of human energy and tissue, which is why *animal laborans* needs constant replenishment. But I believe that the wasted tissue is not the worker’s main contribution

to the emerging product. Rather, in the work process, the worker ‘mixes with’ her medium, receiving, altering and passing on various elements of it into the future stages of the process. In this process, certain potentialities are actualized. These potentialities in the worker that are getting actualized leave the worker and enter the product; we might thus think of the worker as ‘fissioning’ and ‘fusioning’. What an ontology of work needs to explain is where these potentialities come from and how they are actualized. And of course, the worker does not emerge from the process unchanged. She may be tired, wiser, stronger, more famous, full of sores, emotionally attached to the product of her work, and so on. Thus we are justified in taking the worker and the material in interaction up until the culmination in the final product as one process.

2.2.2.1. *Reconfiguration.* With the notion of a subjective aim, coupled with the theory of prehensions (positive, negative, conceptual and physical) and contrasts, we get the conceptual tools for giving an account of the work process as *reconfiguration* as well as an idea of how this reconfiguration is motivated.

A process of work is motivated when the complex interrelatedness among the entities in our environment is not ‘ordered’, but merely ‘given’. Sometimes we may desire things just as they are given. But at other times, there may be incompatibilities in an interrelatedness that is thus merely given that need to be eliminated for a desired state to be reached. For example, a farmer needs to pull out the weeds that grow around her vegetables, a janitor needs to empty wastebaskets, etc. In some other cases, the merely given may be in need of some additional elements, like a barren land in need of water or a circuit in need of a wire. In yet others, the present elements may need to be rearranged (e.g., consider a carpenter building a chair or a poet writing a poem).

Negative prehensions explain how a process of work eliminates some elements; positive prehensions explain how it incorporates others; and contrasts and conceptual reversions explain how it re-arranges them so that “the mere complexity of givenness which procures incompatibilities is superseded by the complexity of order which procures *contrasts*” (ibid.).

Also, because prehensions are transactions with a vector character, they aid in understanding how one phase of the process is passed on to the next.

Further, a process, both in its initial stage and in its culmination, is related to other actual entities through prehensions. It begins with prehensions of antecedent actual entities, and is, upon culmination, prehended by subsequent entities. Therefore, a Whiteheadian account can demonstrate how other processes are engendered in the process of production. For ex-

ample, the culmination of one process of work, such as transportation of lumber, may be the beginning of another process, such as manufacturing of furniture; the culmination of individual thought processes may enter a new unity with each other in a group discussion; or the culmination of a product of art may inspire and initiate a new process. These individual processes can also be ongoing within a larger process, since the picture Whitehead paints is one of nature as a network of events which “extend over other events, so that the large scale events are systems of atomic events” (Emmet 1932, p. 79). Thus, we can make sense of highly interactive processes of work, such as the production of a movie or a symphony.

2.2.2.2. *Exertion of effort.* Contrasts and conceptual reversions account for the intensity of a process of concrescence. All these concepts together (intensity, contrasts and conceptual reversions) can also help us understand exertion of effort. To take a simple example, the exertion of effort involved in jogging can be explained in terms of Whitehead’s idea that intensity increases as the subject comes closer to realizing its subjective aim. The jogger’s effort has an intensity that increases proportionately as she envisions the distance lying ahead of her traversed. Exertion of effort also increases proportionately to intensity with the formation of an increasing number of contrasts. For instance, consider a musician composing a piece, who, as she is writing the music for the piano, is simultaneously trying to hear in her head the drums, thus contrasting the drums with the piano music. In this instance, the exertion of effort required in beholding various musical elements in one’s head at once (is the ‘glue’ that) allows for the formation of contrasts.

If, as argued above, conceptual reversions are possible because eternal objects are ordered in a certain relevance to each other, then prehending unrealized alternatives (i.e., creativity) also requires exertion of effort. Being able to envision a wide spectrum of eternal objects in detachment from reality requires considerable mental effort. For a simple analogy, consider the mental exertion involved in a chess game where the player tries to envision possibilities.

Thus, a Whiteheadian analysis clarifies how exertion of effort is related to reconfiguration leading to desired change in a medium.

3. CONCLUSION

Even though the term ‘work’ is used in a variety of ways and applied to widely diverse phenomena, I believe that all instances to which the word ‘work’ applies have a common essence that can be grasped: when we want

something, and we *try* to make it happen, we are working. All work is the creation of something of value, whether that value be the continuance of life or the satisfaction of some other desire. The word 'creation' in this characterization refers to the instance of trying, not the product, and I hope I have shown that it is possible to give an ontological analysis of such instances of trying, or, 'exertion of effort'.

To recapitulate, the desired change in a medium is achieved through a reconfiguration of the components of that medium. This reconfiguration can be explained via four or five Whiteheadian ideas: the analysis of an actual occasion into prehensions, subjective aim and eternal objects, conceptual reversions, and contrasts. In this analysis, the subjective aim accounts for the value-oriented teleological structure of a process; prehensions and contrasts allow for a breaking down and re-synthesizing of various elements in the process; and conceptual reversions account for novelty and creativity. Whitehead's theory of prehensions also accounts for the continuity of the process, as well as its relatedness to other processes that precede or supersede it, while contrasts and conceptual reversions also account for the 'intensity' of the process of concrescence.

In a process of work, this intensity is equivalent to the exertion of effort. Thus, the Whiteheadian concepts of prehensions, contrasts, and conceptual reversions allow us to understand the connection between exertion of effort and the bringing about of the desired change, revealing 'exertion of effort' and 'reconfiguration towards attainment of objective' to be two sides of the same coin. It is through exertion of effort that one is able to behold possibilities and thus envision alternatives, discard certain elements and integrate the ones retained while sustaining the balance required for the desired outcome.

NOTES

¹ *Webster's Ninth New Collegiate Dictionary*.

² *Ibid.*

³ Bertrand Russell, here quoted after Ciulla (2000, p. 22).

⁴ I prefer the word 'medium' to 'material', because it is less biased with respect to the ontological structure of the material, and includes not only physical objects, but all of or spatial and temporal surroundings.

⁵ My classifications in terms of the types of medium is developed along the lines of a similar classification in Hegel's *Philosophy of Right*.

⁶ One important detail that might lead to confusion is the role that the use of tools plays in our interaction with our media. Is the tool to be considered part of the agent or the medium? When the tools used are simple, such as a shovel or a pen, we tend to think of the tool as an extension of the agent. But what about more complicated machinery and

electronic apparatus? We might then need to add machinery and electronic media as a fifth type of medium.

⁷ Whitehead, quoted after Hall (1963, p. 104).

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