

Creativity and Cognition

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Abstract

This paper seeks to argue that creativity is not limited to only innovations and new discoveries. It encompasses other dominant and significant aspects of human intervention in the form of cognitions which are highlighted in our discussion. Further, it argues that there are two sorts of creativity: historical creativity and psychological creativity. Psychological creativity differs logically and ontologically from historical creativity. The differences are elucidated in detail. The paper further analyzes how all cognitions can be treated as creative acts. It also argues "re-cognition" can be considered a creative act. While suggesting that all cognition is a creative act, it supports Davidson's arguments about "anomalous monism" and Buddhists' theory of "impermanence" which enunciates nothing is permanent in this world and, hence, everything is in a state of constant flux.

Keywords: P-creative; H-creative; anomalous monism; impermanence; cognition

Creativity is the most valued feature and prominent act of the human mind. Human creative power is responsible for the emergence of human socio-cultural and intellectual accomplishments. It is the creative feature which distinguished humans from non-human, animals and machines, in short, being from non-being. Rene Descartes, as a philosopher, stated that creativity is a phenomenon that falls outside the scope of the mechanistic framework. He restricted mechanistic explanations to the domain of the physical and tried to account for the creative acts by positioning a principle¹ that is radically different in nature from the physical one. Here, the problem that interests me is whether creativity is all about the scientific

¹ The principle states that creativity does not arise in a mechanical way. It is always occurring in a unique way. In the mechanistic framework, things happen as a result of repetition and uniformity. But creativity as a phenomenon occurs not in a repeated but rather in a different and unique way.

understanding of the principles. In other words, can a scientific understanding of the principles account for creativity?

The expression 'creativity' had an aura of mystery till today for all prodigious thinkers across different disciplines. Considering it from a closer perspective, it is stated that creativity is limited to mental activity. The prospectus of defining 'creativity' as a mental activity comprises two different aspects. First, it is the mind responsible for creativity devoid of bodily act; second, creativity helps to bring new products in a socio-cultural setting. In this regard, Karl Popper considered that 'creativity' absorbs the above two aspects and can be interpreted in two different directions. One, it is to be judged in the context of new discoveries and inventions, and second, it is to be considered after evaluation of new ideas. Now let us have a clear understanding of 'what is creativity' in our discussion in this paper.

Creativity: A Scientific Understanding

A basic question probably comes in everyone's mind, i.e. under what conditions can one say that a human act is creative. An act is creative when found in product form. Since it is a product it possesses some objective features and these features are publicly available for critical assessment and scrutiny. The objective features are differentiated from subjective and inter-subjective appreciation. If these objective features² are not found in other products and the product is different from others already existing in the same domain, then the new product is a creative one.

There are two aspects always involved by an act. One is represented by the 'process(es)' which lead to the product and the other is the 'product' which resulted from the process(es). By processes here I mean the internal psychological processes of a creative agent and by product I understand a new idea or concept, or an object. Since processes are psychological and hence not accessible to others, it is impossible to determine whether an act is creative or not on the basis of the internal processes involved in the act. In this case, even if an agent claims to perceive the processes involved in creative endeavour on the basis of his/her introspection, that account need not necessarily be true, and therefore valid.³ Thus, to determine whether an act is creative we depend on the product.

² The objective features of creativity are: novelty, uniqueness, etc. see for example Boden and Csikszentmihalyi.

³ Nevertheless, the processes of creativity are interpretable and henceforth understandable. This is transparent when we ask what specific internal processes were responsible for the production of a creative act.

Now it is important to analyse the characteristics of a creative product that allow it to be judged as creative.

It has been observed that '**novelty**' is the most prominent feature to judge a creative act. In this case, the product did not come into existence before the act was performed. This states that, if there are no methods or rules that would determine the production of the creative product before performance of the creative act in question, then it implies that at least some features of the creative product could not be predicted. We could come to know of these features only after the object is produced. Hence, creativity is essentially unpredictable.

But, at the same time, the dominant feature of a creative act is, it must abide **some specific rules and laws**. This is so because it needs to abide by rules and laws. If it were not then, in many cases, the existence or emergence of some of the features of the creative product could not be explained. Nevertheless, "the apparent unpredictability of creativity seems to outlaw any systematic explanation".⁴

A creative product is also judged to have the quality of "**uniqueness**". It certainly has unique features that were absent prior to the product. Such a unique product can serve as a model for the production of similar objects in the same domain or it may be used as a standard for judging the creativity exhibited by other products. Hence, this product can stand as exemplary for other products. In this context, it may be stated that creativity has something to do with solving difficult problems that defy old rules and old views.

The most striking and considered feature of the creative product is its **appropriateness to the demands** of the circumstances of its production. The significance of this point is that, even if the product is novel, and its properties cannot be predicted and explained before its production, we could not consider the product is a creative one unless its product is appropriate to the demand and has relevance in the context.

Another important feature for a creative product is to be **valuable**. Value-judgment is a parameter to evaluate the creative product. Hence, the creative product is not only appropriate and relevant to the circumstances of its production but also it is certainly valuable in its nature. Here it is important to mention that the evaluation of

⁴ Boden, M., 1996, p. 75

a creative product in a domain is done by community experts. So value judgments are said to be inter-subjective and culture relative to some extent.⁵

Considering all these objective features of creativity it is asserted that "creativity is a confluence of three factors: a domain, which consists of a set of rules and practices; an individual, who makes a novel variation in the contents of the domain; and a field, which consists of experts who act as gate keepers to the domain and decide which novel variation is worth adding to it"⁶.

In reference to these three factors and their relation to the objective features of creativity: novelty, uniqueness, relevance and value, it is stated that there are three dimensions of creativity⁷. These are: psychological, social, and objective. These three dimensions may be treated as three meanings of creativity. A creative product is psychological if it is new to the creative agent. This is exclusively personal for the agent. A creative product is social if the object strikes as new to the concerned community of experts. In this case, the creative product is identified by a particular community. Thus, a social creative product is not psychological because it does not restrain to only an individual. A creative product is objective if the product did not exist in the domain before its production and it was not possible to bring the product into existence by following the available rules and practices prevalent in the domain.

It seems it is absurd to define 'creativity' always in the above three ways. A creative product is not always objective in its nature. The objectiveness of a creative product is rare to see because it is confined to the domain of discovery and innovation. Thus, it is not always expectable. In case of the social aspect of creative products, it is defective for the reason that it abides principles subject to scrutiny and evaluation. Since it is inter-subjective, it differs from society to society and therefore is not always apprehended. What remains is the psychological nature of the creative product. It doesn't have the drawbacks of social and objective dimensions of creativity. At the same time, it can't be observed and therefore measured since it is contained in the mind of the person. Thus, creativity in psychological perspective is always emergent.

Boden divided the above analysis into two categories. She claims there are two senses of creativity, **psychological** and **historical**, and they are symbolized respectively as "P-creative" and "H-creative". To explain, a valuable idea is 'P-

⁵ Ibid, p. 77

⁶ Csikszentmihalyi, M., 1996, p. 205

⁷ Boden, M, 1996, p. 76

creative' if the person in whose mind it arises that could not have had it before, it doesn't matter how many times other people have already had the same idea. In contrast, a product is H-creative if it never existed before⁸. In this view it is not possible to have a "theory that explains all and only H-creative ideas"⁹. But an explanation of P-creative ideas is possible in principle.

P-Creative vs. H-Creative

One way of understating "P-creativity" would be to conceive of new ideas as a result of the permutation and combination of old ideas. In this case, there may be situations where entirely unexpected new ideas emerge and, we cannot claim in any way that those ideas are not creative. Importantly to note, it is not to be assumed that the permutation and combination of ideas are generated through random processes, rather it is to be believed that they are rule governed processes. In this regard, Boden suggests about the novelty of the combination of ideas that if the combination did not occur before is not sufficient for it to qualify as creative. Hence, any new ideas qualifying as novel would not be treated as creative. Thus, she expresses that "a creative idea is one that did not and could not has occurred before"¹⁰.

Boden further enunciates that a creative idea is one that could not have been produced by the same system of generative rules earlier to its production. Thus, the production of a genuinely original idea suggests that it is new and unique to the system and derived from the generative systems which can only be accessible to creative thinkers. To explain, the generative system is not a product of random thinking by a creative agent but it is a response to a few constraints on earlier familiar ideas of that same system. This is so because the constraints help a creative agent to come up with a specific system of generative rules that produces a creative idea. Hence, the product will be considered as 'creativity'. 'Creative thinking' is often characterized as 'divergent thinking' as well as 'convergent thinking'. According to Boden, "divergent thinking involves unusual association of ideas, changing perspectives, and novel approaches to problems in contrast to convergent thinking which involves linear logical steps"¹¹.

⁸ Ibid, p. 76

⁹ Ibid, p. 77

¹⁰ Ibid, p. 76

¹¹ In Mihaly Csikszentmihalyi, 1996, p. 206

From the above discussion it can be concluded that creativity is bringing into being of something which did not exist before, either as a product, or a process, or in the form of even an idea or a concept. Thus, creative product is one which it can be said:

- Invent something which has never existed before
- Invent something which exists elsewhere but you are not aware of
- Invent a new process for doing something
- Develop a new way of looking at something
- Bringing a new idea into existence
- Change the way someone else looks at something

We as human beings are proud to consider ourselves as rational animals in God's creation. This suffices to claim that we have a rational attitude, reasonified belief, and, in addition to these, creative thinking ability. It implies that we are creative animals. We constantly change the ideas which we hold or possess about the worldly affairs. Since our perceptions are changing constantly in relation to worldly affairs we are being creative day by day. Creativity, in this sense, does not necessarily imply that something is acclaimed as invention or discovery. It is to be judged as something new to the individual, i.e. the way that (s)he observes the worldly affairs differently.

To perceive the worldly affairs differently then in the past we need to have different cognitions in respect to each state of affairs. From this emerges a possibility for claiming that creativity is an element of cognition. The creative act is produced when we cognise objects, or facts, or ideas of the worldly affairs differently. Here the term 'differently' is understood 'not same as we cognise the object in the past'. This implies that our cognition towards an object or a concept is changing constantly in the course of time. A question soon arises: what is cognition and how it is to be interpreted in the context of our discussion. To restrict ourselves to the domain of creativity, cognition is defined as a product with at least three elements or components. These are: the "cognisor" who has the power to cognise, the "cognised" (object or concept), and the "processes" through which a cognisor is able to cognise the object.

To elucidate it further, it may be noted that often we cognise the object as it is in relation to our earlier cognition of that object. Here, a significant point comes up about how cognition becomes possible. To put it in simple, how an individual can cognise the object as he(s) has cognised it before when everything is changing in

this world? No things remain constant in this phenomenal world. Everything is in a state of constant flux. Question remains further: can 're-cognition' be considered a creative act? How can it be judged as a creative act? The responses to the above queries are comprised in the following passages exploring Davidson's analysis on "anomalous monism" and Buddhist's theory of "impermanence".

Anomalous Monism

According to Davidson's view, the concept 'anomalous monism' is also known as 'token physicalism'. It states that there is no mental substance, but there are irreducibly mental ways of grouping physical states and events¹². This intricacy would be clarified with an example. "X perceives that it is raining." How can individuals claim that a continuous process of dropping water from sky is an existing phenomenon of 'raining'? In other words, if it is admitted that each single drop of water from the sky is observed one after another (one-by-one) and while observing the consequent drop of water the preceding drop of water is vanishing from our mind as supported by the argument 'nothing in permanent is this world', then how is it possible for an individual to claim that "it is raining"? How to claim that it is raining as an objective phenomenon when the observation of preceding drops vanishes from the mind by the time of the next drop?

Logically speaking, how is it possible for an individual to cognise all the drops of water $W_1, W_2, W_3, \dots, W_x$ and claim that it is raining? Again, is it possible that one cognises a drop of water that imprints in his/her mind and never vanishes even after his/her next experience of the succeeding drops of water? Further, at a more general level, how can we deny that we identify the same object that we had encountered in the past? How are we recognising the object after one decade or more although nothing is permanent in this world?

Attempting to answer all these queries, Davidson expresses that each perception is a single occurrence in a particular brain, and is fully specifiable in neurological terms once the details are known¹³. But this rule can't apply to a belief system. The reason is that beliefs are linked to a single believer. The same belief may not be found in the case of other believers. Thus, 'belief' won't be treated as an objective phenomenon as cognition is.

¹² Quine, 1993, p. 72

¹³ Ibid, p. 71

In this context, Quine expressed that perceptions are neural realities and these don't fade out into irreality altogether¹⁴. He further argues that we can't rule out the mental capabilities for grouping a lot of physical perceptions of drops of water as claiming for rain, but certainly each drop of rain water is different from others. Hence, each drop of water is a separate and unique cognition for an individual. To cognise each drop of water as separate leads to the creative act. This is so because we need different mechanisms to cognise a raindrop from its preceding one. While cognising a drop of water we need a separate cognition from its preceding one. As this sort of cognition is uniquely confined within an individual we judge this product as P-creative.

Davidson's analysis of 'anomalous monism' does not ontologically differ from Buddhist's theory of impermanence. To find out on which grounds both theories are equal and identical the present discussion highlights the Buddhist's theory of impermanence.

Buddhist's Theory of Impermanence

One of the central teachings of Buddha is the doctrine of universal change and impermanence. Everything in the world is changing and therefore is impermanent. There is nothing that endures and abides eternally. Birth, growth, and decay (start, processes, and ends) are all pervading features of existence¹⁵. Thus change and impermanence are the basic traits of all existence. Here a question arises, i.e. if impermanence is the fundamental characteristic of existence then how can we claim that permanent entities exist called substances?

A response to this query is by clarifying the whole complexity that is involved in recognising an object that has been perceived in the past. "X recognised a substance as table that he had perceived ten years back". This possibility arises because of the fact that we use the same term "table" to describe it different times. But the reality is that X perceived the table in the past in good conditions that every new table is expected to be, and his present cognition of that table takes other forms: it looks worn, the varnish has faded, the wood has become weak, and the surface is warped. Thus, it is emanated that change is an obvious phenomenon. It

¹⁴ Ibid, p. 71

¹⁵ This passage has borrowed from Puligandla, R., 1997, p. 50

refutes the two extreme considerations. These are 'eternalism' and 'annihilationism'¹⁶.

From the above passages it is asserted that all existing things in the phenomenal world are non-eternal. Everything in this world is merely a conglomeration of perishable qualities. Thus, it is assumed that everything has a beginning, existence, and extinction. Whatever is born will also be destroyed and whatever may be destroyed cannot be thought to be permanent. Hence, everything is momentary. It means things are not only impermanent in their nature but also exist for a certain time.

To accord with this view, Buddhists argues that "only that thing can produce effect which has existence and whatever cannot produce effect has no existence"¹⁷. Further, anything can produce only one effect. At one moment (time) a thing produces only one effect and at the next moment another effect is observed. Hence, the former one ceased to exist. This is so because one thing can produce only one effect at one moment. For example, a seed cannot develop in the same way in any two moments. When the seed is in the bag, it will not sprout as a plant. It sprouts as a plant when it is sown in the earth. This plant again grows from moment to moment (time to time). In the process of its development no two moments are similar or identical. In a similar way, it may be stated that no individual (person) can remain identical in two moments. In this regard, Buddhists endorse the following views¹⁸:

- i. Whatever appears to be eternal and permanent is also perishable.
- ii. Whatever appears to be great has also its decline.
- iii. Where there is union there is also separation.
- iv. Where there is birth there is also death.

From the above discussions, it is emanated that Davidson's view on anomalous monism and Buddhist's theory of impermanence are very close to each other. Both claim that nothing is permanent in the phenomenal world. Hence, everything is transitory and therefore worldly affairs are found in the state of constant flux. They argue that objects appear to us in a fraction of moment, yet we cognise the objects. We also re-cognise the objects we had cognised earlier. Although

¹⁶ The expression 'eternalism' states that everything in this world is eternal and exists timelessly or permanently whereas the expression 'annihilationism' refuses existence to the substances. See, *Visuddhi Magga*, Ch.XVII, Translations, pp. 194-201

¹⁷ Chatterjee, S.G. and Datta, D.M., 1960

¹⁸ Ibid

everything is changing in every moment, the arising and perishing of phases or the recurrence of moments is so fast that we could not mark the changes. As a result, we cognise and identify the object as it is. According to Buddhism, an entity is reproduced through a replication of its states. Each moment comprises a certain state of entities. Thus, a complete entity is the result of an imaginative reconstruction over a series of states. The sequence of replications is linked together in the mind through the rapid succession of similar moments. This gives the continuity of experience and the appearance of persistence¹⁹. In this regard, Satkari Mookerjee writes that the arrow in its flight is not one but many arrows successively appearing in the horizon, which give rise to the illusion of a persistent entity owing to the continuity of similar entities"²⁰. Thus, we cognise an object because of its succession of phases in every moment. This implies that cognition and even re-cognition become a creative act.

Conclusion

With the above arguments we may conclude that each cognition is a creative act; it may be of P-creative or H-creative sorts. P-creativity is limited to an individual or an agent whereas H-creativity is an innovation or a discovery that is widely accepted as a unique product. Thus each creative product involves a cognition produced by the rational agent. Each cognition is a unique in relation to an object or a concept. This is so because everything is changing in this world constantly and hence, the cognisor and the cognised objects/concepts are also changing. Therefore, cognising an object/concept implies dissimilarity to prior cognition. Hence, all cognitions are a creative act and these are of P-creative sorts.

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¹⁹ Brown, J.W., 1999, p. 262

²⁰ Mookerjee, S., 1935

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