Hume's Theory of Abstraction:
—From the Point of View of Normativity—

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Introduction

Empiricism, which holds the source of knowledge lies in experience, must explain how generalized knowledge can be obtained from individual experience and thus cannot avoid abstraction problems, which can be divided into two categories. One concerns the fact of how we come to have general beliefs based on individual experiences. The other is the normative question, namely: when are general beliefs derived from specific experiences justified? It is the latter which we shall deal with here.

In his Treatise, a section titled "Of Abstract Ideas" (T 1.1.7) is distributed to deal with the question of abstraction. Here Hume asserts there is no abstraction independent of the individual ideas and specific processes allowing individual ideas to function as if they were abstract.

Thus, in Hume's framework, the aforementioned abstraction problems arise. Specifically: (1) How do our individual ideas come to work as if they were abstract? (2) When is it appropriate for individual ideas to function as abstract ideas?

Hume's answer to the former question is "representative theory." Each individual idea has a particular quantity and quality (T 1.1.7.7). When we find a resemblance between individual ideas, we organize them into a "revival set" (Garrett 1997, 64), connected with one term. Once the practice of applying the same name to these individual ideas has been established, the name evokes an individual idea with a particular quantity and quality. The habit of distributing the same name to some resemblant ideas triggers other individual ideas when needed.

This is Hume's answer to the facts' question. Conversely, regarding a particular idea as an idea of something, it is sometimes considered appropriate and sometimes not. Hume gives an example wherein the proposition "the three angles of a triangle are equal to each other" (T 1.1.7.8) is proved to be false by invoking the ideas subsumed by the term "triangle." However, suppose there were those who associate the name "triangle" with a collection consisting only of equilateral triangles of various sizes, i.e., those who would

consider the proposition to be true. He would be regarded as committing an error in abstraction. This is an example of inadequacy in the correspondence between collections and names. When there is a language in which we refer to equilateral triangles by the term "triangle" and conversely, refer to triangles by "equilateral triangle," and he is speaking in that language, he makes an appropriate abstraction. This kind of invalidity consists in disregarding the arbitrary connection between sets and names.

There is another case of inappropriate abstraction. It is valid to regard a fireball as a "combustion of gas" but not as a "ghost." This problem is separate from that of assigning the name tags and involves the content of the phenomenon (in Hume's expression, the idea), and hence the appropriateness of the resemblance, or abstraction itself.

The question of validity in these cases is usually viewed as a matter of justificational status of particular propositions or judgments, such as "the three angles of a triangle are equal to each other," or "fireballs are the combustion of gas." However, if judgments in the form of "a is P" or "What is P is Q" can be explained in the framework of Hume, it is by resemblances and attribution of names to the set formed in accordance with it, and must ultimately premise his theory of abstraction. Based on this methodological background, Hume does not deal with individual judgments on a case-by-case basis. Instead, he often generally takes up judgments based on concepts such as "causation" and "identity." Under these circumstances, the above normative question should be regarded as a question of abstractions' validity as well as that of propositions and judgments.

Thus, this paper ascertains how and whether Hume can provide a standard that distinguishes appropriate abstractions from inappropriate ones. One possible answer is the abstraction's validity is determined by the content of ideas put together in a revival set and given a single term. For example, if some of the properties of each individual idea are appropriate to assign a name to a collection of ideas that share it, and others are not, it may be possible to think the abstraction based on the former is appropriate and one based on the latter is not. Since this interpretation holds the criteria that valid abstractions are derived from the content of the ideas themselves, it can be called an internalist interpretation of abstraction's validity. However, internalism faces two difficulties. One is intrinsic to Hume while the other is more general.

In Section 1, we critically examine internalism by considering two challenges to it. The next section discusses the possibilities and problems of an alternative interpretation, namely, inferential role theory interpretation that appeals to appropriate inferences. The

3rd section indicates that criticism of the inferential role theory is based on the uninevitable assumption that Hume's explanation answers normative question as well as that about facts. From this, we argue abolishing this assumption can preserve inferential role theory. Finally, we suggest the possibility of evaluating the abstraction's validity regarding relevance in language practice and usefulness.

1. Internalism of Abstraction's Validity

1.1 Two types of resemblance

In this section, we critically examine the internalist theory that the abstraction's validity in Hume is determined by the content of ideas subsumed by a single term. We begin with the intrinsic issue at the heart of Hume's argument.

As noted above, the process leading to the use of individual ideas as the abstracts depends on the resemblance between them. Hume divides the relation of resemblance into two types (T 1.1.7.7 App. 5). One is the commonly-conceived resemblance; wherein multiple objects share a common element. Hereinafter, this is called Type 1 resemblance. For example, "a rose and an apple are similar in reddish color" is a statement of Type 1. By contrast, Hume recognizes the resemblance of Type 2, which can exist even among objects without a common element and is characterized by "general appearance and comparison" (T 1.1.7.7 App.). As an example of Type 2, Hume refers to the relationship between colors. The notions of blue, green, and scarlet do not have anything in common with each other, but we can still say "blue and green […] are more resembling than blue and scarlet."[1] According to Hume, it is possible to say so because there is a Type 2 resemblance between these ideas.

There may be abstractions based on Type 2 resemblances, for example when the term "cold color" is assigned to a set consisting of simple ideas of green or blue, along with individual complex ideas accepting Type 1 resemblances.

Here is a question for internalism. According to this, abstraction's validity is determined by the content of ideas belonging to the revival set, such as shared elements. However, it is impossible to decide on in this way whether an abstraction based on a second type resemblance is valid. Internalism must at least specify which characteristics of ideas determine validity, even though it need not appeal to common elements.[2]

1.2 Myth of the given

The second issue arises from Sellers' critique of the "myth of the given." Its target is usually the internalism of justifiedness wherein a belief such as "this is red" is justified by something the subject can access by reflection. Comparable criticism also holds for the abstractions' validity that is the subject of this paper. In the case of Hume and the other classical empiricists, the myth of the given emerges in the problem of abstraction.

According to Sellers, the classical empiricists first ask (Sellars 1997, 58): "How do we become aware of an immediate experience as of one sort, and of a simultaneous immediate experience as of another sort?," i.e., what kind of experience does a direct experience belong to? They answer: "the awareness of certain sorts […] is a primordial, nonproblematic feature of 'immediate experience'" (Sellars 1997, 59). This answer assumes that a particular experience belongs to a species is justified by the content of the direct experience, and thus falls into a myth of the given.

It is necessary to consider whether the series of criticisms by Sellers is true of Hume's abstraction theory, or more accurately are not in line with it. The rationale for believing a particular experience belongs to a class, for example, whether the belief "this idea is that of the combustion of gases" is justified, can be explained by internalism in the following way. When an idea is put into a revival set based on its resemblance (of Type 1), there are a variety of possibilities of which specific features to focus upon. For example, it may be considered reasonable to form a set, among the various options, because it shares the appropriate characteristic of the oxidation of flammable gas. If Hume thinks this way, he faces Sellers' criticism. Without waiting to be highlighted by Sellers, we cannot tell the proper characteristics immediately by the mere acceptance of the idea alone.

However, it is not necessary to think Hume poses an internalist theory. While he indeed focuses on the content and resemblance of ideas in describing associations and abstractions (cf. T 1.1.5.3, T 1.1.7.7), he does not relate them to the normative problem. It is quite possible to think that the content of ideas is only brought up to explain the facts.

Here arises the question of what determines the abstraction's validity, if not the content of the idea. One possible answer to be extracted from Hume's text may be its contribution to the appropriate inference (inferential role theory) (Gamboa 2007, 30-32).[3] The next section explores the details of this interpretation and the criticisms which highlight an inherent circularity therein.

2. Inferential Role Theory

As mentioned at the beginning, Hume holds that the proposition, "the three angles of a triangle are equal to each other," can be inferred to be false from uses of the term "triangle," and ideas connected with it, and the habits of associating them. As in this example, Hume mentions "reason" in explaining abstractions:[4]

> Nay so entire is the custom, that the very same idea may be annext to several different words, and may be employed in different reasonings, without any danger of mistake.   Thus the idea of an equilateral triangle of an inch perpendicular may serve us in talking of a figure, of a rectilinear figure, of a regular figure, of a triangle, and of an equilateral triangle. All these terms, therefore, are in this case attended with the same idea; but as they are wont to be applied in a greater or lesser compass, they excite their particular habits, and thereby keep the mind in a readiness to observe, that no conclusion be formed contrary to any ideas, which are usually comprized under them. (T 1.1.7.9)

Here, it is said the practice associates several different individual ideas with one name so that "no conclusion be formed contrary to any ideas, which are usually comprized under them." Hereof, abstractions are considered valid when they contribute to making appropriate inferences.

However, a circularity is noted within this inferential role theory (Sedivy 1995, 122–123, Gamboa 2007, 31). In the above explanation, an abstraction is considered valid if an association of ideas following the principles of resemblance and custom plays an appropriate role in correctly judging the truth or falsehood of the proposition by presenting individual ideas as appropriate counterexamples. But "an image (idea) cannot be claimed simply "to have general representation in virtue of playing that role in inference" because it (the individual idea) must already be general in its representation in order to play the appropriate role in inference" (Sedivy 1995, 122, parenthesis added) says Sedivy. According to her, although Hume attempts to explain the proper use of ideas in reasoning by the appropriateness of abstractions, yet the inferential role theory presupposes the appropriate use of ideas in reasoning, which should be explained.

In the next section, we show this criticism of Hume's abstraction theory does not hold,

while defending the inferential role theory.

3. Defense of Inferential Role Theory

3.1 Language practices

If Hume tries to explain the appropriateness of reasoning by appealing only to abstractions, the inferential role theory is circular. However, if Hume's series of explanations are intended to reveal the way by how we come to use individual ideas as the abstracts and the appropriateness of the reasoning is explained in another way, and the abstraction's validity is rather something to be explained, there is no such a circularity.[5]

If it is not abstraction's validity, what explains the appropriateness of reasoning?

> I believe every one, who examines the situation of his mind in reasoning will agree with me, that we do not annex distinct and compleat ideas to every term we make use of, and that in talking of government, church, negotiation, conquest, we seldom spread out in our minds all the simple ideas, of which these complex ones are composed. It is however observable, that notwithstanding this imperfection we may avoid talking nonsense on these subjects, and may perceive any repugnance among the ideas, as well as if we had a fall comprehension of them. Thus if instead of saying, that in war the weaker have always recourse to negotiation, we should say, that they have always recourse to conquest, the custom, which we have acquired of attributing certain relations to ideas, still follows the words, and makes us immediately perceive the absurdity of that proposition […]. (T 1.1.7.14)

It is not by the content of the ideas associated with the terms "the weaker," "negotiation," and "conquest" that the judgment of "in war the weaker have always recourse to negotiation" is correct, and of "they have always recourse to conquest" is wrong. This is due to the custom of attaining a fixed relationship between the idea of the weaker, and of negotiation, and between the idea of the weaker and of conquest, which accompanied those names. This custom is not innate, but rather it is acquired (Yorozuya 2018, 105).

Hitherto, we have described habit acquisition by focusing on the aspects internal to the subject, such as finding resemblances and assigning nametags. However, to acquire a habit, it is necessary not only to have a natural tendency but also to participate in a language

practice wherein "the weaker have always recourse to negotiation" is correct, and "they have always recourse to conquest." is wrong. If this explanation is fitting not only in the case where the concept does not fully appear in mind, as in the case of the weaker and the negotiation, but also in the case where the content of the concept is considered sufficiently apparent, as in the case of the triangle, the idea of an asymmetrical triangle induced to the mind plays a merely ancillary role in finding the falsity of the proposition "the three angles of a triangle are equal to each other" (Yorozuya 2018, 107). The suitability of the reasoning we make is explained by the practice of language wherein one judgment is regarded as true and another false, through the practice of attributing certain relations to ideas.

If the appropriateness of reasoning is determined by the way language is practiced, the interpretation appealing to the inferential role is circumvented. Hume's theory of abstract ideas is part of a psychological exploration aimed at explaining the fact that people can have only individual ideas but seem to have abstract thoughts using abstract names; it is not intended to provide a standard of appropriateness. Instead, abstraction's validity is explained as playing a role in making inferences deemed appropriate by language practice, and there is no such circularity as Sedivy indicates here.

3.2 Usefulness as a basis of validity

However, the above interpretation is still insufficient to fully explain the abstraction's validity. At the beginning, besides "triangle," I cited "ghost" as an example of an invalid abstraction. By appealing to the inferential role, the former may be well explained. However, this interpretation cannot tell the difference in the validity between subsuming the phenomenon (idea) of the fireball under the name of "ghost", nor in regarding it as "combustion of gas." For example, in medieval people's language practice, it may have been appropriate to infer: "If you get close to the fireball, you will be cursed." However, such inferences are not considered valid according to our practices.

Differentiating the plausibility of such cases is a concern of Hume himself, as well as a request for a full explanation of the validity. While Hume is skeptical about the abstract ideas of apparitions, enchantments, prodigies (T 1.3.9.12), and substances and accidents (T 1.4.3), he at the same time accepts the abstract ideas of government, church, negotiation, and conquest (T 1.1.7.14). As he states, "The idea of a substance as well as that of a mode, is nothing but a collection of simple ideas, that are united by the imagination, and have a

particular name assigned them, by which we are able to recall, either to ourselves or others, that collection." (T 1.1.6.2), it is the imagination that makes it possible to use all these abstract ideas, including some belonging to the former. They may also be considered appropriate in the light of language practice in a particular era, religion, or philosophical system. But Hume admits only part of it.

Hume explains that some of the functions of imagination are appropriate and others are not.

> In order to justify myself, I must distinguish in the imagination betwixt the principles which are permanent, irresistible, and universal […] and the principles, which are changeable, weak, and irregular; such as those I have just now taken notice of. The former are the foundation of all our thoughts and actions, so that upon their removal human nature must immediately perish and go to ruin. The latter are neither unavoidable to mankind, nor necessary, or so much as useful in the conduct of life […]. For this reason the former are received by philosophy, and the latter rejected. One who concludes somebody to be near him, when he hears an articulate voice in the dark, reasons justly and naturally […]. But one, who is tormented he knows not why, with the apprehension of spectres in the dark, may, perhaps, be said to reason, and to reason naturally too: But then it must be in the same sense, that a malady is said to be natural; as arising from natural causes, though it be contrary to health, the most agreeable and most natural situation of man. (T 1.4.4.1)

Usefulness is listed as a candidate criterion for the proper function of imagination. Hume does not say much about usefulness, but as we can see from the quotation, the usefulness of something is considered to contribute to the way in which we conduct our lives.[6] As Hume often refers to the convenience in living as a guide to our quest (cf. T 1.2.5.26, T 1.4.2.6), Hume's argument has an aspect of assessing validity regarding the pragmatic usefulness in our lives, independently to the intrinsic content of ideas.

Since the process of abstraction is driven by imagination (T 1.1.1.7), it is assumed that this criterion can be naturally applied to cases of abstractions. If we focus on this point, we can understand the abstractions of ghosts, enchantments, and entities are not considered valid. Certainly, it takes another exploration of the facts to determine whether using the abstract ideas of ghosts is not useful in lives and whether using that of governments and

churches is really useful. Moreover, there are cases wherein an abstraction satisfying the usefulness condition seems unjustified; this explanation is still insufficient. It should be noted, however, that Hume has proposed criteria for evaluating validity other than intrinsic characteristics of ideas.

Along these lines, we can expect some of the controversial topics in Hume's literature such as causation, external objects, and identity, to be questioned and illuminated in a new light. Instead of questioning whether we can know about them in his framework, we are now in a position to ask whether such abstractions are valid and consider the question from the point of view of language practices and usefulness.

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[1] Hume classifies ideas into "simple ideas," which cannot be further divided, and "complex ideas", which are a combination of them (T 1.1.1.2). The idea of each color, such as red and scarlet is classified into simple ideas (T 1.1.7.7 App. 5). Therefore, the ideas of red and scarlet have no common element, and Type 1 resemblances cannot be considered between them.

[2] If the validity of an abstraction based on Type 2 is not guaranteed, not only the abstraction's validity of simple ideas but also that of complex ones is threatened. A complex idea's abstraction may involve Type 1, but it is not without Type 2. For example, when a revival set of several individual complex ideas is assigned the term "apple," this set is considered formed based on a resemblance of Type 1, i.e., sharing such elements as redness, sweetness and sweet fragrance. This explanation implicitly assumes a Type 2 resemblance between simple ideas of colors, of tastes, and of scents. There are various individual complex ideas subsumed under one abstract term "apple" ranging from something close to crimson to a yellowish red color, something sweet like honey, and something sweet and sour. For these individual ideas all to be included in the set of "apples" simple ideas of crimson and of yellowish red must resemble each other. This resemblance can only be understood as Type 2. Hence, the difficulty of internalism is not a local problem but indeed extends to all kinds of abstractions.

[3] Another possibility is an interpretation that appeals to the stability of the process leading to the use of ideas as abstract (Gamboa 2007, 30–32, cf. Loeb 2002, 73–74). This explanation is also noted to be falling into a circularity (Kemp Smith 1941, 260), and there are exceptions of the process being stable but unacceptable, like "education" and other procedures (Udono 2013, 77–78).

[4] "Reason," mentioned here is to make some judgment by referring to ideas, and it does not necessarily agree with the reasoning in the modern sense, to induce conclusions from premises.

[5] In the first place, proper references to individual ideas are inadequate as a criterion for determining the appropriateness of inferences. In the example by Hume, individual ideas of an inequilateral triangle and of an isosceles triangle are contained in the name of "triangle." Hence, the universal proposition of "the three angles of all triangles are equal to each other" is considered to be proven false (T 1.1.7.8). However, with this method, it is impossible to know whether a universal proposition such as "the sum of the three angles of all triangles is 180 degrees" is true. No matter how many ideas of triangles are scrutinized, although the sum is 180 degrees in each case, the truth of the proposition cannot be determined. Since "the capacity of the mind be not infinite" (T 1.1.7.2) and thus it is impossible to think of all the ideas subsumed by a given term, as it is in principle impossible to know the truth of universal propositions in this way.

[6] It should be noted Hume's remark is not clear about whether any kind of usefulness is enough or that in making correct predictions and proper control is needed. His example of "somebody" and "spectres"

permits both interpretations. If he takes the notion in the latter sense, his criterion excludes some counterexamples to its sufficiency. For example, although it may be indeed useful for living to have the idea of god, that does not include that it helps us make predictions and control in a proper way.

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