Dewey and Bentley's Knowing and the Known

Preprint · June 2023

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Dewey and Bentley's *Knowing and the Known*

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Submitted for publication.

Abstract

The book that Dewey co-authored with Arthur Bentley, *Knowing and the Known*, has long resisted coherent interpretation in relation to his previous work. This article suggests that we look at his work from a methodological rather than a metaphysical point of view. This requires looking first at what he was doing with his concepts and only secondly to their content. The whole purpose of his philosophy was to construct an account which, when used, would draw our attention to observable phenomena and have the consequence of promoting empirical inquiry.

Keywords: *philosophy, methodology*, *language, Dewey, Bentley, knowledge*

Dewey and Bentley's *Knowing and the Known*

The book that Dewey co-authored with Arthur Bentley, *Knowing and the Known* ([1949] 2008), has long been considered an anomaly in his work. Even though Ryan (1997a, 1997b) did an excellent job demonstrating that the text was not a product of a senile mind or of the undue influence of an academic renegade (Bentley), philosophers have still not come to terms with what Dewey and Bentley were doing and consequently have not adequately evaluated their project. An integration of this last text with the rest of Dewey's work would seem to be in order.

The continuity of this text with the rest of Dewey's work may be more clearly seen if we keep in view his early goal of making philosophy useful for the resolution of social problems. "All philosophy is simply for the sake of the organization and regulation of social life… (Dewey [1897] 1972, 8)" The proper role of philosophy, in Dewey's view, was the development of principles and terminology which could be used as regulative tools in the analysis of specific social problems. This task would entail giving up the search for certainty and the pretension of formulating accounts which, because of their presumed metaphysical or ontological status, would be fixed and stable for all time (Dewey [1920] 2008). Its job would be to develop a conceptual apparatus, subject to modification as it was used, which would be useful for helping us solve those problems. It would be tested for its efficacy in helping us define and clarify them by identifying relevant factors and thus opening avenues for their resolution. Dewey's philosophy is a conceptual apparatus designed to serve this function.

The practices of philosophy have resulted in restrictions on our ability to make adequate observation of the conditions which contribute to "the problems of men." It had become involved in its own conceptual world and had little light to shed on daily affairs. The reason for this was not for lack of interest – many philosophers have an interest in the problems of society. The trouble was that when they describe and analyze social situations they impose their conceptual resources in an absolute, rigid, and non-flexible way. The consequence is that their attention is misdirected away from empirical to logical problems. They start inquiry with assumed logical distinctions, focus on the definition of abstract terms as the basis for inquiry, and they preselect what is significant from what is not based on pre-determined logical criteria (Heglar 2021).

Dewey argued that the problem was to be found in the assumption that when using logic we are solving real world problems. Logical distinctions and the terms we use are considered to be found in nature and define the problems we need to resolve. This way of treating logic was a hinder to observation. Observation involves organizing a subject-matter in a way that is consequentially fruitful and which leads to modification of our conceptual apparatus. In the traditional way of using our conceptual apparatus, logic takes precedent over the activity of observation not allowing for feedback from our subject-matter.

Dewey's felt that the only solution to the uncritical use of logic was to focus attention on its use, requiring that we contextualize it by considering its function in a broader context of inquiry. As a part of inquiry, logic was considered a tool. It was a means of regulating inquiry, by which is meant a way of organizing and controlling our observations. By drawing our attention to the use of logic we could control its use.

Dewey addressed this issue in his text *Logic: The Theory of Inquiry* ([1938] 2008) in which he attempted to divorce logic from metaphysical and ontological concerns (see Chapter 1). Treating the ultimate subject matter of logic as being about the world results in the practice of uncritically making antecedent assumptions about the nature of reality (Dewey ([1929] 2008). This fallacy is committed every time we find justification for our assumptions and terms by arguing that they represent a world independent of our activity. This is the case whether we justify our perspectives with metaphysical arguments about the nature of reality or use a logic based on the substantial treatment of terms.

Dewey and Bentley's overall purpose in *Knowing and the Known* was to free up inquiry into the human condition by making possible "fuller and keener" observation. The making of better observations required that we recognize our own involvement in inquiry through attention to our use of the resources of logic and language. It could be attained with the help of an account which drew our attention to our own act of organizing using these resources.

Dewey had recognized early on that the only way to resolve the questions that had characterized philosophical concern since the time of Kant was to reconceive "knowledge" as a form of action (Dewey [1897] 1972). In order to be studied with the method of science, we had to make the attainment of knowledge something objective and visible, something which we could describe. We must pay attention to the act of knowing, to our own activity of organizing a subject matter, as well as to what is known.

I would like to first focus on the problem of "metaphysics" since this has been an issue in philosophy since Dewey's passing. For Dewey and Bentley the usual approach to questions of metaphysics and the issue of our involvement in the production of knowledge are made out to be logical problems, a consequence of making an a priori distinction between subject and object.

Second, I discuss Dewey and Bentley's attempt to counter philosophy's concern with our involvement as a logical problem with the establishment of an empirical base for philosophy. This is done by means of a postulation of knowledge, or language, as a form of action. Viewed as a form of action, observable and describable, we have to attend to both the knower who is doing the acting as well as what is known.

The notion of "transaction" was introduced as a form of presentation which dealt with our own involvement in inquiry by including both the knower and the known in our descriptions. It thus represents the "finer and keener" observation that Dewey and Bentley

claim is the goal of the text. It was based on the requirements of description that had proven to be so successful in the life sciences.

In the spirit of much of Dewey's work, I will not make extensive reference to the texts of others or to concepts that have been important in the history of philosophy. This practice tends to lead readers to think in terms of others' positions or to historically accrued meanings, rather than from a clear statement of Dewey and Bentley's position (Ratner et. al., 1964; p. 254).

1. The Question of Our Involvement in Inquiry

Perhaps the greatest impediment to incorporating *Knowing and the Known* into the rest of Dewey's work was due to the debate about Dewey's metaphysics since the second half of the last century. Dewey openly wondered whether the term "metaphysics" had any valid use (Dewey [1915]2008), but his basic argument against metaphysics was actually very clear. If we want to pursue an empirical method then any habitual practice rigidly adhered to was an obstruction to the flexibility necessary for free interaction with existential material. Conceptual practices that treated something as antecedently "given" and necessary for inquiry were examples of this. "Metaphysics" was a conceptual practice which assumed that we could make a claim that some characteristic, or quality, or item of knowledge was an inherent "foundational" characteristic of the world. Making such an assumption blocked inquiry by making our conceptual apparatus, our procedural means, immune from feedback and modification.

Dewey therefore rejected a metaphysical or ontological status for any of his accounts and asked that they not be evaluated as such (Dewey 1949). Despite his strong insistence, the debate since his passing has been full of references to "Dewey's ontology," a "transactional metaphysics," or "Dewey's metaphysics." We get logical arguments, such as that his accounts have underlying "implicit metaphysical assumptions," that his denotative method implies an ontology, or that his accounts contain a "weak" ontology. We get semi-psychological accounts, such that Dewey was "sympathetic" to ontologies, that he was a "reluctant" metaphysicist, or that he "really" wanted to construct a metaphysics. Some consider it important to distinguish what is "metaphysical" from what is "methodological" in his writings. It is commonly claimed that his metaphysics is to be found in the identification of "generic" characteristics of experience (Dewey [1925] 1981). The renewed interest in pragmatism and Dewey's philosophy in recent years has largely centered on this issue of whether metaphysical or ontological justification in the form of statements about ultimate being is a necessary and inevitable part of inquiry.

His alternative hypothesis was that the idea of understanding the nature of Being as independent of ourselves was impossible because everything we can know about the world is the result of the way we act upon it. The idea that knowledge concerns a reality independent of

our own activity gives way, in Dewey, to a hypothesis that sees the empirical method as an activity - our own attempts to make sense of, to see order in the world, by successfully manipulating existential conditions. If one accepts an account that knowledge is the output of a relationship between ourselves physically operating on the world and that which is being operated on, as Dewey does, then there is some strange mix of ourselves and the world in all our accounts. Our usual question has been one of how to separate ourselves and the world out of the account. This has been the subject of a concern in philosophy with Dewey's "metaphysics." To the contrary, he argues that we are not something separate from the world and the world is not something separate from ourselves. Hence all our accounts are irremediably mixed accounts. The "individual" and the "world" are abstract categories that we accept as if they were not abstract.[1]

Many philosophers are well known for their rejection of metaphysics, but one implication that seems not to have been fully appreciated is that this view brings into question the status of all language accounts, including philosophical systems. If our accounts are in part a product our own ordering activities, then in what sense can we assume that we are providing accounts of a world independent of our own activity? In what sense could we claim that we establish their "truth" independently of ourselves and our activity? In what sense could we take any statement to be a metaphysical statement when all statements are to be viewed as the output of our own ordering activities? While Dewey was not always consistent about this, Dewey and Bentley in the *Knowing and the Known* argue that we can't. All metaphysical or ontological claims that our philosophical systems are metaphysical accounts of an independent reality become nonsensical or irrelevant, whether we are talking about logic, scientific theories or the status of narrative accounts of meaning and experience. This includes our own philosophical accounts. In all other philosophies that reject metaphysics and the subject-object distinction which makes such questions possible, there is an assumption that one's own account is an exception and that it provides a picture of the way things *really* are. I would say that Dewey's rejection of an ontological (and metaphysical) status for all language accounts and the very possibility of asking questions about an independent reality was *categorical* (Dewey [1949] 2008).

The assumption that our own account is an exception allows us to hide our own role in the production of knowledge. To the extent that our own role is hidden or denied is the extent to which we are not able to gain control of aspects of our own activities of inquiry. Dewey's alternative was to change the status of our accounts from metaphysical pictures of the way

[1] In the article *The Subject-Matter of Metaphysical Inquiry* ([1915] 2008) Dewey gave to "metaphysics" the role of studying the irreducible traits of existence This was later turned into the "generic" traits of existence (See the *Logic.* Any proposition involves discrimination, an act on the part of the investigator). When we get to the *Knowing and the Known* metaphysical statements are considered to be "working hypotheses" (see below).

things really are to epistemological tools of inquiry. He insisted that they should be treated as *methodological* guides and always hypothetical rather than given a *metaphysical* status (Dewey [1938] 2008, 505). From a methodological point of view we attend to what we are doing and therefore to our own role. We put philosophical systems into a context of inquiry for their evaluation, which is to say that we look at the consequences of their use for inquiry.

As his philosophical account was "hypothetical" it was conditional and temporary. Its validity was to be derived not from the validity it might have as a representation of an independent reality, nor from how well it resolved the traditional problems of philosophy, but from its use. In what directions did it point, what did it allow us to see, what new connections did it make apparent? How, in other words, did it promote inquiry? In this sense what concerns us are the consequences of its application, that is, it is tested. It is part of a process of *experimentation.*

Science involves guided observation. That is to say that we do not simply observe a world independent of ourselves. We cannot describe without organizing what we perceive. Dewey and Bentley want to point to the organizing. We have ignored this organizing activity and the tools we use in its accomplishment, or at best have made it into the "mystery" of interpretation. We are, in effect, hiding our own contribution to knowledge claims. We need to bring our attention to these practices. To talk about our own contribution is to talk about resources we have at our disposal for making sense of the world. To be able to "talk about" means to identify and thereby create the possibility of bringing these resources under control. The resource to which philosophy needs to attend and bring under control is its use of language, including logic. It was attention to how language was used, in the form of postulations and terminology, that characterizes the *Knowing and the Known.*

2. The logical approach to our involvement in inquiry

The question of our involvement in inquiry has traditionally been treated as a logical problem. Ever since Kant we have recognized that we must deal with the issue of the relationship between the knower and the known. Unfortunately, the possible solutions to this problem, including Kant's, have been constrained by continued use of the logical distinction between subject and object (Dewey [1929] 2008, Ch. 11). This distinction requires the a priori postulation of characteristics of the known, characteristics of the knower, and some mechanisms which relates the two.[2] An inherent separation of humans from the world is assumed and the main problem for philosophy had been to account for how a subjective mind could know an objective world. Practically all problems in western philosophy have been concerned with how to overcome this conceptual alienation from nature.

[2] See discussion by Dewey and Bentley of alternative postulations in *Knowing and the Known*, p. 78-79.

In this view the distinction between subject and object and the logical categories it creates are treated as independent of the observer and have a substantial status as characteristics of reality. Our task involves defining the nature of the categories and their relationship. Working on logical problems therefore involves "discovery" of the ultimate characteristics of the world whether they be of an objective reality, the nature of the knowing subject, or the mechanism by which they are related. Thus metaphysics, defining the nature of a world independent of the knower, was made possible and a logical method of treating categories as substantial representations of reality was the method by which this objective was achieved.

The use of the subject-object distinction defines the problems that require solutions. Given this constraint, the solutions to the problem of our involvement in inquiry have been two: either we find a way of getting rid of our own contribution so that we have an empirical "foundation" for knowledge, or we conclude that all knowledge is interpretation and that science has no special method for justifying its results. The debate between the "foundationalists" and those who argue for a "linguistic turn" is one example of using this distinction. So too is most of philosophy of science. Indeed, tomes have been written about the relationship between "fact" and "interpretation."

The possibility of metaphysics and the questions it asks therefore only arise because of the uncritical use of the subject-object distinction. Dewey doesn't so much *resolve* the distinction as much as changes its status from a necessary way of defining problems to a tool of inquiry. Depending on the context of inquiry, such as in the history of science, it may have its purposes. But as a working hypothesis for understanding empirical activity it has outlived its usefulness. It has not proved useful in helping us understand science. It created a separation between our own activity of inquiry and the characteristics we discover.

3. The solution to our involvement is found in the practice of science

The problem of our involvement in inquiry is not a logical problem, but a practical problem. Instead of insisting that the empirical method conform to our a priori distinctions, our conceptual apparatus has to be developed hand-in-hand with description (or "reading") of the actual practices of scientists. Description of these practices is to take precedent over explanation of the scientific method by using logical categories.

Galileo had begun a method which combined the best of philosophical positions of empiricism and rationalism (Dewey [1887] 1972). Ideas were used as guides to investigate observable processes and conclusions were checked and rechecked by further observation. In this activity, both conceptual and material resources were used for the organization of a subject-matter. Both observations and conceptions are refined until there is a "fit," or what Dewey called a "settled" situation. In the experimental method of the sciences there is a constant back and forth movement between ideas and observation. It was a method in which

our "knowledge" was a product of how we operated on the world with particular resources and then communicate the actions necessary for others to reproduce the same experience we had (Dewey [1925]1981). Since this was a continual self-critical process, the "knowledge" of science was conditional and temporary and its validity depended on its usefulness in promoting further inquiry. Our involvement was implicitly present in the method itself. This mutual refinement between what Dewey called the procedural and material means, with controls introduced as need be, may in a broad sense be called *experimentation.*

In this process appropriate controls are developed and utilized depending on the need. As the "method" was applied to new areas of study, it evolved in the sense that new aspects of our involvement in inquiry became relevant. In most contexts of scientific activity explicit concern with our own involvement could be ignored. Hence it was possible to talk as if we were discovering characteristics of a world without us being in it. However, as scientists moved into new domains, they had to take into account new aspects of how they were interacting with existential material.

In certain areas of physics our own organizing activities had become explicit. Dewey and Bentley quote the physicist P. Frank (1946), "Speaking exactly, a particle by itself without the description of the whole experimental set-up is not a physical reality" (48). In the life sciences our role had been emphasized with the development of the theory of evolution, which had brought into question the status of the concept of "species" (Mayr 1970; Heglar 2022) and highlighted its function as a tool for organizing our observations of organismic variety. We see a like concern with the question of our involvement in Dewey's early reflex-arc article (Dewey [1896] 2008) which argued that the meaning of concepts such as "stimulus" and "response" shifted depending on the viewpoint of the observer. Dewey saw that these advances – seeing new ways in which we are involved – was a general characteristic of science and needed description and generalization to all instances of the empirical method.

Dewey suggested that a better description of scientific "knowledge," one that did not depend on resolving a logical problem of the relation between subject and object, could be obtained by considering knowledge as a form of action (Dewey [1889] 1972). Because of the rather vague significance of the term "knowledge" (Dewey and Bentley 1948, 48) I will take the liberty of replacing it with the term "language," of which logic is a derivative form. So it is language viewed as a form of action, which makes it into a tool used in inquiry. The notion of language as a form of action has certain descriptive advantages that are not present in a logical form of the "problem" of scientific method. It considers our use of language to be an objective phenomenon, that is, an action that can be described as something that is done.[3] Understanding our involvement therefore entails describing this action, making available practices with language which can be brought under control. In order to understand our own involvement in inquiry we must be concerned with how we use language as an instrument.

[3] In another context I have described this action as the making of distinctions (Heglar, 2021).

Thus, language becomes available as a resource to which we must attend if we are to understand our involvement in inquiry. There is no need of a logical, metaphysical *foundation* for the empirical method. Nor is there reason, because a metaphysical approach is rejected, to argue that scientific "knowledge" floats free, justified by only by social constraints and values. The "foundation" occurs in the process of inquiry, the method of science itself, through an activity of checking and rechecking our results in a process of experimentation. The debate between the foundationalists and anti-foundationalists is a debate that is generated by the vestiges of the subject-object distinction. Both sides of the debate are possible if we start with a distinction between the objective and subjective.

The issue in science is not to minimize our influence, nor to find a groundless alternative, but the question becomes how to first see it and then both work with and control it. Control over what we do invariably involves others, a pointing to and a sharing of the significance of that which we designate.

4. *Knowing and the Known* and the Correspondence with Arthur Bentley

The separation of the knower from the known, and the resulting spectator theory of knowledge had created an "ontological context" in which our terms were treated as substantial things that had an existence independent of ourselves. Dewey's insistence that this attribution of an ontological foundation for our terms was not necessary and in fact a hinder to understanding what he was doing became more intense in his later years. He then directly took up the issue of the status of our accounts and terms as tools which he came to see as central to communicating the significance of his "context of inquiry." At the end of his career, in collaboration with Arthur Bentley, Dewey published *Knowing and the Known* ([1949] 2008). This book – or rather collection of articles - is a most interesting piece of research in that it is explicitly an explication of empirical method as applied to texts and at the same time a demonstration of the same. It is "empirical" in the sense that assumptions and dichotomies were analyzed for the consequences of their use – how they either directed or misdirected our attention away from an observable subject matter. This can be said of all Dewey's work, but it seems to have taken the collaboration with Arthur Bentley to bring this into explicit focus.[4] The papers in K*nowing and the Known* are continuous with Dewey and Bentley's previous treatments of logic (Ryan 1997; Dewey and Bentley [1948] 2008) and directly deal with the issue of how language and logic is used as a resource in inquiry. The recommendation that all

[4] "Largely due to him, I've finally got the nerve inside of me to do what I should have done years ago" Dewey in a letter to Grace de Laguna. (LW 16, 489). Born of frustration, one of the articles included in the *Later Works 16,* the *Knowing and the Known* consists of a letter to A. Balz, in which Dewey is explicit about his frustration of having to answer questions of definition generated by ontological or metaphysical concerns.

assumptions be given a methodological status is a claim for an approach which examines their instrumental character as organizing principles for inquiry. Our involvement is thus made visible by assuming that language is a form of action and that we are organizing a subject matter when using it.

Three of the chapters (1, 7, 10) were considered to be empirical studies of philosophical texts on logic, involving a close examination of the texts themselves. In these articles (written by Bentley) they argued that basing logic on ontological foundations led to ambiguity and confusion in the use of terms such that they were made useless as guides for empirical observation. The problem was a consequence of treating logical analysis as equivalent to exploring reality, a problem Dewey had identified in his *Logic: The Theory of Inquiry.* This meant that logical categories that could not be understood in empirical terms were given an ontological, or substantial status and inquiry was directed at providing proper definitions of their nature. The terms, in other words, were de-contextualized and removed from any concerns with their use. Bentley discussed the primary distinction which characterized philosophical analysis, a rigid distinction between subject and object which made necessary a link between the two. It we start with such a *logical* distinction, and give it an ontological status, we will be led down certain paths in our thinking which will make necessary the postulation of inherently unobservable mechanisms.

In this text, their own use of language became a primary concern. On practically every page, Dewey and Bentley comment on what they are doing and why, from stating the status of words and descriptions in the context of various discussions down to the typography used in displaying terms. An explicit concern with their own method of developing concepts and formulating language accounts is a dominant characteristic of the text. In this text Dewey's experiment of treating all uses of language in a methodological context was extended to the general treatment of language as a form of action and therefore a component of our ordering activities. This conception of language as a form of action means that what we are doing with language is directly observable and therefore amenable to control. By "directly observable" I mean that we can point to the distinctions made (Heglar 2021).

A number of awkward terms are introduced, for example *knowings-known* and *namings-named,* which are coined in order to maintain in view both the action of the observer and that which is observed. When using language we are <u>doing</u> something.

Their goal was to therefore to establish conditional terminology to be used as resources in inquiry, such as "fact", "description," "event," "signification," "symbol," etc. These were intended to be working definitions in the same sense as previously described. The exploratory, experimental nature of their endeavor is particularly notable when one accompanies this book with the book of correspondence between Dewey and Bentley (Ratner, Altman, Wheeler 1964).

In this text the term "transaction" was introduced as a descriptive aid, a *methodological* or *regulative principle* which functions in inquiry in two senses. With regard to the research domain, our subject matter held in abeyance from our activity of organizing, it means that our observations have to be contextualized. With regard to the analytic domain, directly concerned with our involvement, it was necessary to hold the observer and the observed simultaneously in view.[5] Both are presented in one observational system in such a way that we hold simultaneously in view our own activities of organizing and the subject matter or material we are working with. As a form of presentation, a transactional description includes the conditions of observation.

Dewey and Bentley have two objectives in the *Knowing and the Known:* First, to establish an empirical subject matter for inquiry. This would be done by an explicit statement of a set of "working hypotheses" which consider what would be called epistemological issues, or the question of how we know, as a behavioral matter which is observable and describable. The second was to develop a view of the use of logic and language as tools or resources for organizing this subject matter.

5. Guided Observation – Working Hypotheses

Before progress can be made in philosophy and its relevance to helping solve social problems ensured, we need to have a common basis for acting, talking and exploration. Unlike the natural sciences which have a long history of agreed upon methods of working and an accumulation of "facts," the domain of philosophy has no such corpus. In science, this is achieved by establishing a shared context – an agreed-upon subject matter that can be described (events, occurrences) and a method (checking and rechecking observations) for resolving differences about the significance of what is identified and described. In science, our conceptions are modified depending on their utility in helping us see relationships and make connections between observable events.

Philosophy, on the other hand, subjects any possible empirical content to description using logical categories unacknowledged as tools. As a consequence, it replaces feedback from empirical content with logical problems. Our "results" are not checked by anything other than logical coherence and at best "chestnut" empirical reference in which empirical content is presented out of any context. Our "subject-matter" is therefore logical or conceptual. *There is no reference to observable facts* for the resolution of debates which means that part of the context necessary for progress is absent. We are missing an empirical subject-matter, of something observable which can be organized, which will allow for shared attention between members of a community of inquiry.

[5] See *Knowing and the Known,* p. 69; the transactional as a procedure.

In Dewey's view of science, the observational and the postulational go hand in hand. The first task of the *Knowing and the Known* was to establish an empirical orientation. The solution was to replace metaphysical assumptions with statements of the conditions under which work would be conducted, or "working hypotheses." This is consistent with the notion that "knowledge" is a form of action and that its form, language, is shareable with others. This changes the status of our language accounts from metaphysical statements to methodological guides for inquiry.

In order to distinguish their use of postulates or assumptions as methodological principles from postulates about the nature of reality the authors refer to their assumptions as *postulations,* as opposed to *postulates*. A postulate tends to be associated with "taken for granted as the true basis for reasoning or belief (Dewey and Bentley [1949] 2008, 76)." Defined in this way, it is considered sufficient to identify implicit metaphysical assumptions for explaining method, behavior, or the meaning of a text.

"Postulations" on the other hand are conceived of as *working hypotheses*,[6] heuristic rules to be followed in conducting inquiry. They function as guides to observation. They are, in this sense, methodological rather than metaphysical statements of reality. Dewey and Bentley state that they constitute the chosen conditions under which their work will proceed. Other working postulations are possible. The criteria for their evaluation comes from two sources. First, they should be based on what has been found to be successful in the other behavioral sciences, that is, that the postulations arise out of previous inquiry. Second, they should be evaluated or tested according to the consequences of their use for the successful organization of the particular subject-matter of concern. The "generic characteristics of experience" thus become working hypotheses, to be evaluated according to the consequences of their use.

The first set of conditions, or working hypotheses, establish an empirical subject-matter (see Dewey and Bentley [1949] 2008, 80). First, they state that knowing is an activity on a par with all behavioral inquiry. Sometimes called Dewey's "naturalism," this means that inquiry has to begin with and return to observable behavior. The goal of inquiry is to relate observable, behavioral, events. This is to say that their initial assumption is that an understanding of inquiry does not have to begin by postulating special mechanisms for human knowing. The second and third postulations establish continuity between humans and other organisms, and the fourth and fifth state their assumptions that all human behavior, as well as the activity of knowing, is considered to be the outcome of the relationship between organism and environment. By establishing their subject-matter as observable behavior they therefore locate epistemological issues in philosophy as a topic in the domain of the life sciences. The organization of their subject matter is consistent with the approach that has been tested and found to be of use in

[6] The locution "working hypotheses" may be taken as a shortcut for the discussion on pp. 16-18 of the *Logic* regarding the postulational character of logic. They state that postulations are not considered to be either arbitrary or a priori.

the life sciences for promoting empirical inquiry, in particular the postulation that behavior will be viewed as an output of the organism-environment relation (Heglar 2022).

The other postulations (there are 41) specify that they will treat all forms of knowing as actions on the part of the subject. Everything that we identify as significant must specify both the what that is specified as well as the act or reason for its specification. We can't, in other words, specify a distinction without also keeping in view the conditions under which it is specified.

The requirement that we consider the what that is known as well as the act of knowing requires a *transactional* treatment. The value of such a treatment is that it explicitly recognizes the act of knowing.

6. Transaction as a form of presentation

The methodological developments that occur as scientists explore new domains consist of our techniques of observation, including the description and presentation of events. A major change in those methods took place in physics in the 20th century, with the theory of relativity replacing Newtonian mechanics and the subsequent development of quantum mechanics. Two things occurred. The first applied to our manner of describing phenomenon or what we may call the research domain. It was recognized that description could be carried out without recourse to unanalyzable forces such as gravity. Einstein provided us with a description of the movement of astronomical bodies that made the notion of gravity superfluous. It furthered inquiry by opening up completely new avenues of research into time and space. The second was recognition of the perspectival character of research, or what we may call the analytic domain of inquiry. All description was carried out under certain conditions of observation which had to be considered to adequately account for phenomena. Our terms no longer refer to independent "things," but to things under observation. Again, Dewey and Bentley quote from Philipp Frank's *Foundation of Physics*; " 'The path of a light ray,' without including the environment of the light ray in the description, is an incomplete expression and has no operational meaning." (Frank 1946, 113) In physics when we describe actual happenings, or processes, we are coming to find that we have to include the observer in our observations. There is a mix of our own methods and the phenomenon we are describing.

With regard to the research domain, Dewey and Bentley spend some time discussing two manners of organizing our descriptions which have been historically important. One is that of self-action, where things are viewed as acting under their own powers. A second is that of inter-action, where thing is balanced against thing in causal interconnection (See chapters 4 and 5 for a complete discussion of these two forms of description). Both of these working hypotheses assume an antecedent reality in the form of "causes" and therefore hinder descriptive activity. The former assumes that things act according to their natures – it is the

nature of smoke to rise, or the nature of a rock to fall, or the nature of humans to be rational. The second assumes that objects with their own nature behave according to their interactions with other things, such as in Newtonian physics. For example, the nature of Newton's hard particles determines the types of interactions in which they can engage, or the nature of "cognitive structures" determines how a person interacts with the world.

The problem with both these forms of presentation is that they are descriptive dead-ends. They both assume that once we define the "nature" of particles, cognitive structures, the mechanism of understanding, or whatever, that we have discovered their characteristics and are finished. The terms are, in other words, taken as substantial things the nature of which may be described and explanation achieved. Once we identify its characteristics as substantial objects further investigation is not necessary. As such, description of actual processes is replaced with hypothetical actors. In this process certain aspects of the phenomena under description are a priori left out as unimportant. In Newton's system for example, time and space were assumed to be unimportant. Adequate consideration of experimental results, for Einstein, meant including space and time in his descriptions. Once that was done, the superfluity of the notion of Newton's hard particles, with their assumption as moving forces, became evident. The practice of postulating hypothetical forces was replaced by a more complete descriptions of actual events. What is lacking in the former approach is any recognition that we are involved in their identification and that these hypothetical forces are manners of presentation.

The form of presentation that takes both the knower as well as what is known into account is termed "transaction." The notion of "transaction" functions as a more advanced principle of description. By getting rid of metaphysical overtones, and by recognizing logical categories as descriptive devices, only the principle of transaction includes both the knower and the known in one system. "Transaction" is a form of presenting/organizing observations that contextualizes observations of phenomena as one component in a context of inquiry.

To put the observer back in the picture means to see that our observations are subject to control by our categories. Transaction, in a technical sense, means "unfractured observation." By this is meant that we do not impose a priori logical categories on our subject-matter, or that we do not have to begin descriptive activities assuming that certain logical categories have to be used. We recognize these categories as our own, and we can use them if they are valuable, or not. All inquiry has to use categories of selection and choice, but we replace hard and fast distinctions, such as that between organism and environment, with flexible distinctions that may shift depending on the context of inquiry. A transactional description is simply one that puts the locus of control in our descriptive processes, without starting with unquestionable a priori assumptions imposed by logical concerns.

If we give up the descriptive procedures of self-action and inter-action we make possible a description without causes. Dewey and Bentley ([1949] 2008) state:

> …Transaction…represents that late level in inquiry in which observation and presentation could be carried on without attribution of the aspects and phases of action to independent self-actors, or to independently inter-acting elements or relations. (112).

An example of a transactional description drawn from clinical work in child development is useful here. Clinicians use the notion of "presenting state" (e.g. Carlson and Cassel 1984) as a way to characterize the child's development at the time when intervention (which may be education) is required. The notion of presenting state allows what is to exist without causative factors. A description of the individual can be offered without cause, and therefore, without the guilt, depression, anxiety, and other concomitants on the part of the individual or the social contexts to which he or she belongs. Such understanding and use by evaluators allows an inventory to be taken and some decision to be made as to whether or not any facets of a presenting state could benefit from changes to allow for improved participation. Causation will be important if an appropriate mediation or intervention is to be pursued, but causation in and of itself is not the only determinant of mediation or intervention.

Description is carried out without the need of postulating directive agencies. We find "…more and more today…biologists hold that developed description by itself is a far more useful "interpretation" than any appeal to "directives." (Dewey and Bentley [1949] 2008, 116). In order to accomplish this a transactional presentation of the research domain is necessary, in which "broader statements must be obtained in full transactional form in order to secure that wider conveyance of information which is required (118)."

In certain situations, such as in the study of behavior, explicit concern with analytic issues of our own involvement in inquiry is necessary. The biologist Paul Weiss (1968) gives us an example of a transactional description which is also neutral, but which more explicitly highlights the role of the observer. In a discussion of what he means by a biological "system"[7] he notes the problems with the notion that "the whole is more than the sum of its parts." This statement most commonly leads to claims that systems display "emergent properties" which cannot be reduced to lower levels such as physiology. This leads us to postulate the existence of supernatural emergent characteristics and causal forces which explain the whole range of behavior in question.[8] What is problematic for Weiss is what is meant by "more." It is not merely numerical. The "more" does not refer to any measurable quantity in the observed systems themselves. He goes on "…it refers solely to the necessity for the observer to supplement the sum of statements that can be made about the separate parts by any such

[7] The notion of "system" is for biologists, at least in some of its uses, what the more generalized notion of "transaction" is for philosophers.

[8] See also Dewey and Bentley's ([1949] 2008) discussion on p. 129 about the postulation of emergent properties in a levels analysis.

additional statements as will be needed to describe the *collective behavior* of the parts, when in an organized group. In carrying out this upgrading process, he is in effect doing no more than *restoring information content* that has been lost on the way down in the progressive analysis of the unitary universe into abstracted elements." (11) We pre-empt inquiry when we postulate forces that are necessary and sufficient to explain behavior. Levels are created which are considered sufficient and independent of each other. Rather, the notion of levels should allow us to relate control of the system to different levels depending on the perspective of the investigator.

To understand the meaning of the term "levels" therefore a transactional description has to be given, one that specifies the terms' role or function as a tool of inquiry. It marks a distinction in our inquiry into a subject matter. To include its function is to include the role of the investigator, by specifying how it is used. It does not mark a difference in our subject matter requiring a special mechanism to explain, it marks a difference we deem important to note in our attempt to bring order to our subject matter.

The principle of transaction, while its use in physics and physiology is becoming increasingly important, is necessary when it comes to the development of the behavioral sciences, including philosophy and human studies. At this level of investigation we find that the procedures necessary to use in inquiry for an understanding of behavioral events are different from those necessary for understanding physiological events. Adequate description of behavioral events must take the observer, with his or her use of categories for description, into account by recognizing that the language used in description is a resource.

7. Descriptive Tools

While the term "levels" has a specific meaning for the domain of biology, Dewey and Bentley are interested in a generalized terminology suitable for a theory of knowing, or epistemology. As Bentley showed in the first chapter of *Knowing and the Known* entitled "Vagueness in Logic," traditional philosophical analysis in this domain is characterized by confusion and ambiguities in our use of terms. This was because terms such as fact, term and proposition were taken out of their context of use, treated as substantial entities, and focus was on their essence by means of definition. The distinctions made and the terms used were defined according to logical criteria in which coherence of definition was preferred over any function they may serve in inquiry. The *method* of philosophy to resolve this situation was to come up with better definitions and resolve logical problems with a better use of language. However, since the terms were not chosen for their utility in making a significant distinction in our subject matter, there was no way to come to an agreement on how terms should be used. It is impossible to agree upon and share metaphysical or logical assumptions. It is possible to establish shared attention to the surround.

The use of a word for the establishment of shared attention requires a concern with the its function or use in a broader behavioral context, in this case that of inquiry. Given our previous discussion of the status of our language accounts, we have to consider that terms are not substantial objects, but resources used in the organization of our subject-matter. We have to ask what a term is for, why it is being introduced. They mark distinctions in our subject matter which can be pointed out.[9] In order to see this a transactional description that keeps in view the aspect of the subject matter it distinguishes as well as its status as a tool that is used for the identification of that aspect.

The term "fact" may be taken as an illustration, given its traditional importance in logic and epistemology. A typical definition of "fact" in logic is something like "A proposition that is true." Such a definition assumes that a "fact" is something that can be defined independent of the observer. Dewey and Bentley keep the term, because etymologically it referred both to the act of knowing as well as the known. They give it their own definition which keeps in view both the observer and the observed. "Fact: The cosmos in course of being known through naming by organisms, themselves among its phases." This definition is not likely to satisfy either sensationalists or rationalists. A "fact" is an event or occurrence, something that can be pointed to and described, with a significance that is shared. A "fact" is a "fact" in relation to some context of inquiry, some context from which it derives significance. However, a consideration of how we use the term will show that any description of its use has to refer to the act of identification as well as to the event identified. Any clarity of definition of fact will therefore have to emphasize that a fact is the result of an action on the part of the person such that both the world and the reason for the identification, or the context of inquiry, must be taken into account.

For purposes of inquiry, we may tentatively hold apart what I have called the research and analytic domains. A "fact" consists of both domains, that of an event and an act of designation. Under event we have, consequently, *situation, occurrence and object.* Under designation we have *cue, characterization and specification*, as forms of action. Other terms refer to manners of presentation or organizing our observations, such as *self-action, interaction and transaction.* The important point is that Dewey and Bentley want terms which will draw our attention to knowing as an action as well as that which is identified.

The criteria for determination of what is a fact shifts from an isolated object in the world to a context of inquiry. All terms used should have an observable basis that workers in the context of inquiry agree are significant. "Significance" means that it makes a difference in our individual or collective activity of inquiry. A "fact" does refer to something that can be denoted, but is also the product of selection and choice in the life activities of the person.

[9] In *Experience and Nature* Dewey refers to this as "returning to primary experience."

It is forgetting that a "fact" is a tool as much as an "thing" that allows us to treat our terms as substantials. To treat something as a substantial is to hide from view the context of inquiry, seeing that a term is as much a tool for organizing observations as a distinction which is denoted. It means that we attribute characteristics to our terms, such as giving them causal properties and a degree of self-action or inter-action that doesn't make sense. Not only that, but giving substantial status to terms defines the problems of recent philosophy.

A case in point is the debate between an "experience-centric" and a "language-centric" approach to pragmatism (see Vaporil 2022; Koopman 2022). The goal of these authors is to provide a conceptual apparatus which allows both language and experience to work together, allowing us to accept both aspects of classical ("experiential") pragmatism and Rorty's ("linguistic") interpretation. The problem exists because of the substantial treatment of the terms "experience" and "language." Both are taken to be essential human characteristics and as such are candidates for the central concept of pragmatism. The validity of experience and language as substantial terms is first assumed and this creates the problem of how to put them together, glossed in this case as defining their proper role. The locutions used to describe experience give their substantial characteristics away: "Make room for experience," "experience's effect on conduct," "experience as motivational in conduct" (Koopman 2022). Language (as a formal system) is what distinguishes humans from other organisms. We have here the self-actional or inter-actional presentation Dewey and Bentley criticize.

There should be no debate. "Experience" doesn't <u>do</u> anything – it doesn't act, it doesn't motivate, it doesn't "effect" conduct. It is a concept, a way we have of organizing observations and a basis for description. It has to open up avenues for action by making significant distinctions in our subject-matter. Dewey explained one reason for using the term. He felt that it would make possible "discriminating various modes or manners of being engaged, occupied, concerned, talking part, interaction – whether observing, liking, hating, trying, or whatever. In short, I think it gives the groundwork for a descriptive analysis of behaviors" (Dewey in Ratner, Altman and Wheeler (ed.) 1964, 143).

Likewise "language" is not a "thing" we "possess" that "accounts for" the differences between our forms of communication and that of other organisms. The term "language" indexes a group of communicative behaviors that require an exploration of their function in the life of human beings. The term does mark a significant difference between the communication of humans and animals but this doesn't mean that we have to postulate a "thing" that accounts for this difference. In Dewey's perspective, language is important because it is a behavioral component of how we adjust to the world. We adjust to the world in particular ways, depending on the tasks we face as individual organisms adjusting to the world, and this adjustment is influenced by the socially shared aspects of language.

How we can take the term "experience" as something central to Dewey's perspective when he eventually gave up the term is beyond me. Dewey would also not give language the

substantial importance as a basic concept of pragmatism. This only makes sense if we assume the terms represent some essential characteristic of humans. Remove the substantial interpretation given to the terms "language" and "experience" and we have to ask a different question – what is the work done by these two concepts?

It would be useful to clarify this treatment of terms by going to science, the model for the theory of inquiry. An example from the domain of medicine was found recently in the *New York Review of Books.* According to Dewey and Bentley, the ontological treatment of terms is a practice whereby a "…word's meaning is severed from the word's actual presence in man's behavior…"(Dewey and Bentley [1949] 2008, 104). In this example the word's meaning is in part given by the procedure of diagnosis.

> For starters, let's take "acute" and "chronic" pain. While non-clinicians often think that "acute" means something like "severe" or "urgent," clinicians mainly use the term to talk about time scales. Acute conditions, medical students are taught, last hours to weeks; subacute one weeks to months; chronic ones months to years. These distinctions are helpful because the diagnostic possibilities suggested by a few days of cough as opposed to a few years of cough, or a week's fever compared with several months of recurrent fever, are distinct… "Tincture of time" sorts out a great many medical mysteries without overtaxing the clinician or putting patients through dubious ordeals.
>
> Our symptoms do not read textbooks, unfortunately: medicine's linguistic conventions serve as doctors' shortcuts rather than marking firm borders. While the terms *acute* and *chronic pain* may be useful in generating a differential diagnosis - a list of things that a patient's pain could signify – a growing body of scientific literature suggests that they are not just long and short versions of the same fundamental experience…(Kolbe 2022, 3).

To call a phenomena like pain "acute" or "chronic" is to denote a distinction which specifies a different course of diagnostic treatment. The distinction marks a difference, one that makes sense in the context of diagnosis.

Philosophers would ask the question: "What is the (ontological) difference between acute and chronic pain?" How do we demarcate one from the other? A proper definition would explain what they are and give us "true" knowledge. This is an example of treating our terms as substantials, or what Dewey called the "ontological context." We do not want to define "acute" and "chronic" as discreet categories with an essence, or give them an ontological status. This is to confuse "observation" with Aristotelian logic. To "observe" in this case means to mark a temporary and conditional distinction between types of pain. We can provide a characterization of the difference, but a decision on how to classify behaviors depends on the investigative situation. Instead, we need to place their <u>use</u> in the center, and be satisfied with a "loose" or

temporary and conditional definition. What clinicians need is a "shortcut," rather than a precise and logical distinction based on a substantive treatment of terms.

Doctors know and can communicate the difference, although on different occasions of diagnosis it may be necessary to better distinguish the two. Mistakes may be made in the process of diagnosis, in which case we will have to go back and revise our attribution of the terms acute and chronic to the patient's situation. Their usefulness, their meaning, will be improved in relation to diagnosis. Their use may eventually be said to be warrantably assertible, in the sense that they may be used reliably. Their meaning becomes "stabilized" or "less vague." Further research (the "growing body of scientific literature") may show the limitations or boundary conditions of the distinction.

> While enterprises of pre-Darwinian types require certainties, and require these to be achieved with perfection, absoluteness, or finality, the post-Darwinian logic is content to hold its results within present human reach, and not strive to grasp too far beyond (Dewey and Bentley [1949] 2008, 185)

The terms "acute" and "chronic" are "facts of the case." Their distinction has to have some empirical base, meaning that the difference between the two can be described. However, mutual agreement has to be reached on more or less what we mean by the use of these two terms, and this mutual agreement is of the form of knowing what action is to be taken in diagnosis as a result of applying the distinction. The distinction marks a definite difference but the terms have to be open-ended. In this way their meaning can change depending on further observation. To define something as a "fact," means simply that its use, including an agreed-upon reference, is consistent among members investigating a particular domain for all practical purposes. In this sense our terms and the distinctions we highlight with them, are hypothetical.

This example shows us that there is a difference between definitional clarity and clarity of use. Definitional or referential clarity, the pointing to something, may be "more or less" definite in use – there will always be a certain vagueness as to what it refers. We can reduce that vagueness but never get rid of it. It's use however can be clear. It's clarity is derived from the diagnostic activity that is the consequence of making the distinction. A transactional approach for describing how the terms are used is thus necessary for understanding their meaning. They must be situated within an activity of diagnosis. We don't have to answer all questions of interest to philosophers before we can find utility in our accounts.

8. Conclusion

Dewey and Bentley wanted to do for the traditional field of epistemology what is being done in the sciences. They wanted to establish the problem of knowing as a concrete, observable activity which takes into account both the subject matter of study as

well as our involvement by the use of a conceptual apparatus for organizing that subject matter. Overall, their project was the extension of the principles of observational control they had abstracted from the natural sciences to the behavioral sciences, including the domain of philosophy and the analysis of texts.

The continuity of *Knowing and the Known* with Dewey's previous work is evident if we characterize his project as methodological rather than metaphysical. This means that we focus on *what he was doing* with his conceptual apparatus rather than on the continuity in content of particular terms such as "experience." When using language we are engaged in a form of action that has observable consequences, and the important consequences for inquiry is its utility in helping us organize a concrete subject matter. An account such as Dewey's is about the regulative functions of logic and language in general as instruments for the organization of our observations. The terms we use make distinctions and based on these distinctions we describe and characterize the human condition. The adequacy of these characterizations and their modification is determined by the consequences – what new relationships they allow us to see.

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