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# *THE EMERGING THEORY STREAM: DISCUSSING THE UNDISCUSSABLE*

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# RATIONALISM IN NORMATIVE BUDGET THEORY

Dan Williams
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## INTRODUCTION

This paper concerns *epistemological* rationalism and the norms used by governments to instruct their officers to perform their duties. The particular duty I discuss here is preparation of and action on the budget. In this paper I use "rationalism" as the opposite of "empiricism." This rationalism does not refer to "economic rationality," it refers to the method of attaining knowledge associated with introspection, logic, and *a priori* knowledge. It is opposed to the method of attaining knowledge associated with observation, experiment, and evidence.

By "norms," "normative" and other related terms, I mean action guiding language. Four senses of normative are defined later in this paper. Government officers find much of what they do specified or limited by action guiding language. Much of this language is narrow and technical in nature, consisting of regulations, SOP's, manuals, precedents, and performance plans. These norms are often concrete and specific. This paper examines where such norms fit in the landscape of rationalism and empiricism, and identifies a source of confusion that can lead to poorly constructed norms. A model of thinking is developed.

The model is then applied to budget norms, that is to the processes, formats, and techniques urged on, or demanded of, budget participants, primarily those who put the budget together. There is a question to resolve: Is the process of formulating budget guidelines empirical or rationalistic?

## PUBLIC ADMINISTRATION AS NORMATIVE GUIDELINES

Public administrators often concern themselves with matters of technique such as *how* to make budgets, *how* to measure performance, *how* to manage organizations, *how* to hire and supervise, *how* to conduct themselves in the political arena, *how* to privatize their functions, and so forth. Both popular and academic literature overflow with material advising public administrators on these matters. Some, perhaps most, of what goes into a MPA program focuses on these matters. This paper concerns what constitutes good technique, or, more precisely, how we should come to attain the knowledge that constitutes these techniques. In particular, how should we formulate the guidelines for administrative practice? I begin by examining two epistemological dichotomies.

## RATIONALISM AND EMPIRICISM

It is widely held that two dominant ways of attaining knowledge are rationalism and empiricism. Rationalism is typified by René Descartes' approach in *Meditation on First Philosophy* (1642), where he doubts everything that he can, finally settling on one indubitable fact, "I think." In the process of doubting, he chooses to trust his reason over the observations of his senses. Empiricism is typified by John Locke's approach in *An Essay Concerning Human Understanding* (1690), in which he denies the existence of "innate ideas," consequently

observations of the senses are the only true source of knowledge. Modern thought, dating to Immanuel Kant, denies that knowledge comes from either pure rationalism or pure empiricism, instead thinking is constrained by observations while observations are constrained by the observer's predisposition to observe. Still, there are methods of obtaining knowledge that are more empirical and methods of obtaining knowledge that are more rationalistic. The method of experimentation in the sciences is proffered as an example of a primarily empirical method, while the introspective approach of mathematics is primarily rationalistic. For the purposes of this paper, I use rationalism and empiricism as ideal types that may help us focus our attention on the matter of how we learn what we know.

It is widely believed that the current era is dominated by empiricism, that is, that in the debate between the adherents of Locke the adherents of Descartes, Locke's forces won. This view is closely associated with the methods of science. Empirical investigation, in the form of an experiment, is viewed as the paradigm of finding out about the world. Although this view has come under attack since the 1950's, it still holds up fairly well. For example, within the fields closely associated with public administration, research design is taught as quasi-experimentation. Factual matters are not believed to be discoverable through introspection.

## "KNOWING THAT" AND "KNOWING HOW"

Our second dichotomy is between "knowing that" and "knowing how" (Ryle, 1949). Over most of the twentieth century, British-American epistemology has been concerned with what is true and how we come to know it. These are concerns about "knowing that." Science is widely thought to be a study of facts and theories that explain such facts. So, the enterprise of science is a study of "knowing that." It is widely held that knowledge consists of having justified true beliefs, which amounts to believing true propositions for good reasons.

"Know how" (technical knowledge)[1] is different from factual knowledge. Claims of fact are true or false, ways of doing are effective or ineffective. While facts have a certain exclusivity to them – the same proposition cannot be both true and false in the same respect at the same time – it is less clear that ways of doing are so exclusive, for example, two routes may take you to the same destination in about the same time. Another important difference is that technical knowledge is implicitly teleological (goal oriented) while factual knowledge is not. One knows how to achieve an end. Without the end, there is nothing to know. Whatever the method, technique, skill, behavior, or way of doing, it is not a "how" unless there is an objective.

## TECHNICAL KNOWLEDGE AND PRESCRIPTIVES

"Know how" is stored and transmitted through prescriptives.[2] Recipes are prescriptives for cooks. Algorithms are prescriptives for computer programmers or mathematicians. Rules are prescriptives for game players. Laws are prescriptives for government officers. When we buy complicated toys for our children, they come with instructions for assembly. Sophisticated technical knowledge takes the form of prescriptive theories, that is, complex sets of logically connected prescriptives.

Prescriptives are the basic components of normative language.[3] Four normative uses of prescriptives are:

Normative$_1$ (moral norms): Prescriptives can communicate moral guidance. Kant refers to the chief guiding principal of morality as the "categorical imperative," by which he means that such a prescriptive is to be followed unconditionally. He reserves this status to the highest level of moral precepts; however, a somewhat looser use would include not only the highest precept, but also any lesser precepts that could be derived from

it.[4]

Normative$_2$ (technical norms): Prescriptives can communicate technical knowledge. This is the use we have already noted. In Kantian terms prescriptives in this use are "hypothetical imperatives," that is, prescriptives to be followed in some circumstances. The chief condition of this form of prescriptive is that one desires the promised end product.

Normative$_3$ (stipulative norms): Prescriptives can stipulate a definition by specifying a series of steps that lead to the intended object or condition. These stipulative prescriptives also produce a sort of technical knowledge; however, its benefit, to the degree that it has any, follows from the benefit of the object defined. This is another form of hypothetical imperative: "If you want play a game of chess, begin with a board that is marked of in eight rows and eight columns of alternating colored squares...."

Normative$_4$ (commands): Prescriptives can be used to communicate commands. Commands are interesting with respect to their status as "categorical" or "hypothetical." Certainly Kant would call such imperatives hypothetical. Yet, the person issuing the command is likely expecting the command recipient to treat them as unconditional, and the command recipient may well view it as such.

Prescriptives that are purely moral (normative$_1$), stipulative (normative$_3$), or commands (normative$_4$) are not empirical statements. They provide action guidance founded in morality or the motivations of the prescriber.[5] On the other hand technical prescriptives (normative$_2$) require an empirical foundation. They communicate pragmatic information about the world. How do they do this?

Why can a bicycle manufacturer produce a set of diagrams and instructions that lead to the product, a bicycle, without first trying to put a bicycle together and find out what is needed? The reason is that the design of the bicycle predates the fabrication of the components. The components are fabricated to comply with the plan that includes the intent to assemble them in a certain manner. The plan of assemblage defines the components, so it is not surprising that the plan describes how the fabricated components are assembled. Still, there are three areas where the plan may be empirical tested. First, there must be possibility of fabricating what is planned, materials must be available. Leonardo da Vinci designed many machines that were useless in his own era because they required materials that were unavailable. Second, the design is subject to unforeseen failure. Perhaps a bolt is placed where it cannot be turned. Perhaps actual assemblage is impossible because of practical failures, such as the need to simultaneously hold a tire in position and tighten the bolts on its axle. Third, the design is subject to failure of usefulness. Perhaps it has square tires, is too small or too big, or has such an uncomfortable seat that most users come to detest it. Perhaps the materials and fabrication make it too expensive to attract a market.

These technical prescriptives involve a conundrum. As they are teleological, they depend on thinking, planning, logical analysis, etc., in summary, rationalism. Yet they also depends on feasibility in components, process and cost, that is empiricism. Somehow the rationalism and empiricism of design must be coordinated. How do prescriptives coordinate empirical foundations with rationalistic planning?[6] There are two ways. First, let us conceive of designing – that is, formulating prescriptives – as an application of deductive logic. Empirical knowledge is not found in the logical construction, instead it is found in the premises – that is, the assumptions that are included in the plans. For example, through *prior knowledge* of mechanics, materials and the market the designer can design a bicycle yet remain constrained by the observable world. Second, the design can be improved through *experience*. Once designed, the design is implemented and results produced or, where the

design is too severely flawed, the results are not produced. Through observation of the implementation and results, flaws and opportunities for enhancement can be identified. This information is used for redesign. Minor flaws or straightforward enhancements can be dealt with in implementation. Through an iterative process of design, implementation, observation and redesign the prescriptives that store this technical knowledge can be improved over time.

## AMBIGUITY IN PRESCRIPTIVES

An important class of prescriptives are those that are normative in more than one way at the same time. For example, all math is stipulative ; however, applied math is also technical. Prescriptives for applied math must be formulated to comply with more limitations than those for basic math. Applied mathematicians can be completely correct in their rationalism and attain accepted results from the perspective of defining a logical process, and yet remain ineffective, thus useless from the view of techniques.

## A MODEL OF TECHNICAL KNOWLEDGE

Technical knowledge differs from factual knowledge. Factual knowledge consists of justified true beliefs of propositions. Technical knowledge consists of endorsing prescriptives that lead to anticipated objectives.[7] Experience is included in technical knowledge either through constraints on prescriptives – that which is not possible is not prescribed – or through iterative adjustment through application of technique. Although technical knowledge is communicated through prescriptives, prescriptives may be used for other normative purposes. Prescriptives that are formulated correctly for one normative purpose, may be poorly formulated for another. Sometimes the technical use of prescriptives overlaps other uses, which can lead to ambiguity.

## APPLYING THE MODEL TO BUDGET GUIDELINES

Budget guidelines are prescriptives issued to budgeteers (analysts, decision makers and other participants) to guide development and action on a budget. They are stipulative norms, that is stipulations of actions to produce a product, an allocation of resources known variously as a budget or an appropriation. They also stipulate the production of other interim products and even some of the interactions that go on while the product is under production.

Budget guidelines may also be technical, collectively a repository of "know how" concerning budget making. If so, the budgets are not simply the results of following budget guidelines, they a practical objects in the world. They can be useful, fail to be useful, or be less useful than one would prefer. The generation of budget instructions would be empirically founded, with the possibilities in the world limiting what can be prescribed. The iterative construction of budgets within the guidelines would gradually improve the instructions themselves.[8] Budget guidelines that are stipulative norms reflect rationalism and those that are technical reflect empiricism.

It is apparent that the budget instructions are practical in nature. They do not describe a mere possible product, they describe one that is of some use, resulting in some objective. As with bicycles, budget designs can fail in several ways: (1) They can assume the availability of components that are not available. A current example may be Activity Based Budgeting, which depends on the assumption that governments have reliable cost accounting systems. (2) They can require procedures that cannot be executed, zero based budgeting is sometimes criticized in this manner. (3) They can produce products that no one wants, or that are not deemed worth the cost. Wildavsky (1961) and others have criticized the idea of budget analysis as producing the wrong product.

Budget guidelines should be empirically grounded through the assumptions they rely upon and through their iterative use and redesign. It is not enough to say, "I have thought up this new way to make a budget ...." That is the way of rationalism. Budget guidelines made in such a manner are stipulative norms. They define a product which is merely the result of specified steps. Such guidelines are easy enough to make, but they have no practical value. Some may be utterly impossible to follow, like finding a winning strategy when you start second in tic-tac-toe against an experienced player. Others, while possible, are worthless, like deficit reduction plans that abolish the military budget or end Medicare.

How do budget guidelines fare? Are they rationalistic, primarily the product of the introspection and logic of their designers, or are they empirically grounded? Does the answer to this question help explain why some budgetary innovations take hold and spread while others fail? How can we tell one from the other?

There are several bits of evidence that can be offered in answering these questions. First, there are elements of the history of budgeting which appear to reflect iterative redesign. Over the twentieth century budgeting has undergone numerous reforms. One series of these reforms includes: centralized budgeting (1921), executive budgeting (1937), performance measurement (1943), functional budgeting (1949), performance budgeting (1949), Planning Programming Budget Systems (1965), zero based budgeting (1977), and the Government Performance and Results Act (1993). Axelrod (1995) cites 15 reforms in this series. The very existence of this series suggests a macro-level design - redesign approach to budgeting. Another series, is the Budget Accounting Act of 1921, the Congressional Budget Act of 1974, Gramm-Rudman-Hollings (1985), and the Budget Enforcement Act of 1990. While the first series focuses on budget the information available in the budget documents, the second focuses on the roles of various decision makers and what is permissible throughout the process. Again, the mere existence of this series supports the idea that budgeting is empirically grounded. Unsatisfactory budget products, presumably the allocation decisions, lead to redesign and re-implementation. Iteratively, budget guidelines are tested in the empirical world and modified to overcome failures or to achieve enhancements.

What about specific budget innovations, such as ZBB or PPBS? With a multiplicity of such innovations, our observations may not coalesce. Still, a few examples may clarify matters.

Pyhrr (1976) says that zero based budgeting developed over a period of time while he was employed at Texas Instruments. It was developed as an alternative to incremental budgeting. However, it is not clear whether this switch to zero based budgeting developed over time or came about suddenly when dissatisfaction with the previous method became pronounced. This evidence is not clear, the idea of development suggests an iterative process and the transfer of a working budget model from one environment to another also suggests empirical grounding. Anthony (1977), however, questions whether Pyhrr implemented a working model of zero based budgeting on a large scale and suggests that Pyhrr is closer to a sincere enthusiast with an idea. This picture looks more like rationalism. The actual development of ZBB – the switch from zero baselines to 80% baselines with incremental decision packages – demonstrates an ability for the innovation to adjust through iterative trial.

Ammons (1995) points out that performance measurement was first proposed by Clarence Ridley and Herbert Simon in 1943. Performance measurement is not strictly a budget innovation, but it is often associated with budgeting both as a management strategy and as production of information that can lead to decisions. Alan Ehrenhalt (1994) points out that performance budgeting, PPBS, ZBB and management by objectives all embrace very similar ideas and says, "The concept never change much, but every time it received a new name, it got a public relations booster shot that kept it alive that much longer." His central thesis is that these types of approaches to policy making in the budgetary context are incapable of handling the sorts of problems that

governments must resolve. This presents another picture of rationalism, enthusiasts with an idea (or with ideas) impervious to the effects of experience.

This discussion is too limited to draw conclusions. Yet it is suggests questions. Is budget innovation an iterative process of design, implementation and adjustment? Or, is it the battering of rationalistic enthusiasts against unbending reality? Let us suppose that it is the latter. Does that suggest any changes in how budget prescriptives should be developed? On a broader level, does the theory of technical knowledge sketched out in this paper fit with the role of prescriptives in storing and communicating technical knowledge? If so, can this model be used to better understand how to develop technical knowledge as it is used by governmental organizations?

## NOTES

1. This use of technical is consistent with ordinary usage, although it extends it somewhat. However, the implication is that know how or, at least, sophisticated know how is technology. This view differs somewhat from the way "technology" is used in mainstream philosophy of technology, which is more concerned with the embodied or extended technical object (Ihde, 1991).
2. "Prescriptive" is used here to mean a statement that prescribes or demands action. Closely related terms include "prescriptives," "imperatives," "instructions," "commands," "rules," "guidelines," "recipes," etc.
3. "Normative" is used here in the broadest sense of action guiding. This encompasses not only moral or social norms, but also other guidance that is less momentous. However, the term is not used in the broadest possible use, which includes non-action guiding descriptive statistics.
4. Strictly, if the derived prescriptive follows analytically from the highest moral precept, it would remain part of the "categorical" imperative, otherwise it would be a hypothetical imperative, probably fitting the description of technical norms.
5. This paper does not concern the epistemological status of prescriptives that are moral norms or commands. Prescriptives that are stipulative norms reflect rationalism.
6. This problem is an interesting parallel to the finding that "ought" cannot be derived from "is" (G. E. Moore, 1903; David Hume, 1738).
7. In a broader sense, technical knowledge may also include factual knowledge about matters of technical interest. This narrower sense refers to knowing techniques or know how.
8. In the applied setting, budget guidelines must also be commands, that is, issued with the coercive power of the government or, at least, the authority of an administrative hierarchy behind them. They are instructions to act, not merely rules of a game.

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