Philosophical and Empirical Foundations of the Social Sciences
Economics 6910; Government 6122; Philosophy 6422
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There are four questions that have shaped almost all explorations of the theoretical foundations of the social sciences. These questions involve: (a) the connection between individual experience and a general theory; (b) the role of individual comprehension and intent in human behavior; (c) the link between the individual and social collectives; and (d) the relationship between mathematics and the construction of theoretical systems.

The first question is shared with the philosophy of science generally in that individual experience (personal perception) must somehow give rise to general theories (knowledge shared with others). Although this question has been addressed in many different ways, the most fruitful approach involves the study of language as a means of constructing reality and communicating experience. The second question involves the relationship between structure (the frame within which individual action takes on meaning for other individuals) and agency (the ability of the individual to choose what meaning to communicate to other individuals). This question is, perhaps, the most important problem distinguishing the natural from the social sciences. The third question asks how explanations of individual behavior can be integrated with understandings of social collectives (such as the nation, a political party, the international system, the family, and a religion). As in the natural sciences, a satisfactory answer would provide much of the basis for a unified theory. The last question asks how the language in which social science theories are communicated and understood is related to the statistical analyses in which data are presented and analysed. This question is best addressed by understanding this relationship as the intersection of an interpretive and communicative system (language) and pure logic (the reduction of experience to well-bounded categories of data so as to enable the application of statistical analysis).

These four questions provide the backbone to this course and we will take them up in roughly that order. However, the philosophical and empirical problems that these questions address overlap quite a bit both in the abstract and in their treatment in the literature. As a result, we also both anticipate some of the later discussions as we proceed and backtrack from time to time as we reconsider issues raised in earlier sessions. Although there are better and worse ways of understanding the philosophical and empirical commitments that necessarily ground social science practice, there is no single, correct foundation to the social sciences. This course is only intended to survey the field in such a way that the student better understands just how he or she is constructing reality in their professional research and writing.

Course Requirements:

Because this course is designed as a general survey of the vast literature on the philosophy of social science, a research paper will not be required. Instead, seventy-five percent of the course grade will be based on a take-home final conducted as if it were a small version of a doctoral qualifying examination. An additional fifteen percent will be allocated according to the amount and quality of individual contributions to class discussion. The remainder of the course requirements will be satisfied in the form of a class
presentation in which each student leads discussion of the readings under one or more of the weekly headings.

However, a student can choose to prepare a research paper of (to be negotiated) length in place of the take-home exam. This research paper should be intended for presentation in a professional forum outside of Cornell and/or publication in a professional journal. If this option is chosen, the student will be asked to make additional presentations to the class, drawn from the weekly readings.

Presentations:

The presenter for each week will provide an overview of the week’s readings as part of their presentation. That presentation will also include discussion questions (and perhaps answers) that might guide class discussion. These questions may or may not include those asked on the syllabus, as the presenter chooses.

Final exam:

The final exam will have seven questions divided into two parts. Students will answer two questions from each part. The exam will last seventy-two hours with the expectation that students will write for no more than twenty-four hours (roughly the format of the doctoral examinations in the Government Department). There is no minimum or maximum page limit on this exam. Students are expected to draw upon all the readings for the course in answering these questions but are not permitted to bring outside readings into their discussions.

Part I

The Theoretical Foundations of the Natural and Social Sciences

First Session (January 21): Introduction.

Description of the course and selection of presentation responsibilities.


Second Session (January 28): The Common Foundation of the Natural and Social Sciences.

One of the most basic issues in the social sciences concerns the extent to which research practices and theory construction in the natural sciences should guide the study of human behavior. Although there are exceptions, most scholars would not maintain that the units and events studied by social scientists are "just like" those analyzed by natural scientists. From that perspective, social scientists should not be looking for a "master key" in the form of a conceptual scheme that somehow unlocks the door to a proper understanding of human behavior. Some social scientists would, in fact, reject the notion that the natural sciences and the social sciences share anything at all in terms of their respective orientations toward physical and social reality. There is also a somewhat muddled middle ground in this contentious terrain in which much of what the philosophy of science has produced by way of prescribing and understanding scientific practice is
considered at least metaphorically useful in the social sciences but that the study of human behavior nonetheless raises issues and problems that must be separately addressed through different logics and understandings. These issues will resurface throughout the semester.

With respect to the Levi-Strauss reading, you might note how the author: (1) posits the reproduction of the species through marriage as the irreducible foundation for empirical research; (2) relies on functional explanations of how marriage rules both enable alliances between groups and contain internal stress within the group; and (3) presents the rules prohibiting incest as both negative restrictions on marriage possibility and the onset (universal opening) through which the group originally presses claims on “organizing” the social relations of its members. Chomsky, on the other hand, seeks universal structure and principles (rules) through the study of language. How does Chomsky’s “universal grammar” differ from Levi-Strauss’s “prohibition of incest”? What do they have in common?

Required:


Recommended:


Third Session (February 4): Positivism, Logic, Induction, and Deduction.

The central tenets of logical positivism are: (a) that we perceive the world through our senses; (b) that our sensory perception of the world and knowledge of that world are inextricably bound up with each other; and (c) that nothing else exists apart from the world that we perceive (or can plausibly imagine that we could perceive if we had the appropriate instruments and occupied the appropriate situation). Given these tenets, science becomes a process through which the nature and principles governing the world are discovered and apprehended. This perspective is almost irresistibly appealing for a number of reasons. For one thing, almost all of us organize most of our lives around its central tenets. We are, in daily practice, logical positivists. For another, most scientific research more or less presumes the same perspective (which is one of the reasons we call research results “findings”). While there are serious problems with how logical positivists conceive of induction (the accumulation of perceptions and their transmutation into categories and statements) and deduction (the relationship between those categories and statements and the empirical world), these problems are more or less manageable in the natural sciences. As we shall see later in the course, they are less tractable in the social
sciences...if only because the individuals and societies we study often subscribe to very different notions of empirical reality than do the social scientists who study them. But that comes later...this week we are only interested in the construction of a thoroughly logical and knowable world. This construction, among other things, carries profound implications for the way in which we use language to assert and record facts about the world and, thus, for the way in which language, evidence, and statistics are (or should be) mutually translatable, one into the other.

**Required:**


**Recommended:**


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**Fourth Session (February 11): Intersubjective Consensus and Science.**

The very notion of a "science" (a research-oriented community of scholars) would seem to rest upon a fundamental intersubjective consensus among practitioners with respect to what constitutes evidence, including units of analysis, the theoretical meaning of an event, and, thus, whether and how a proposed hypothesis might be falsified. But that consensus also includes a shared confidence that there is something to be discovered through research as well as what that something might be. As Kuhn suggests, these preconditions for the collective pursuit of knowledge must be relaxed lest science turn into ritualized dogma. One of the questions that we ask this week is how far and in what ways this intersubjective consensus can be relaxed before the research endeavor becomes a metaphorical "Tower of Babel." The second question is whether there is enough intersubjective consensus in the social sciences, taking the subfield of economic sociology as an example, to say that paradigms (note the plural) are possible. If so, what might they look like? If not, should the construction of paradigms be the most pressing goal of social science research?

**Required:**


Recommended:


Fifth Session (February 18): The Nature of Hypothetical Propositions.

All social science theories are originally conceived in language (using concepts, relations, and syntax that originate in common language as spoken and written). For that reason alone, the foundation of any social science theory rests upon the conceptual commitments the theorist makes at the very beginning of theory construction. By requiring that a theory be susceptible to empirical perception, logical positivism insists that a theory be empirically grounded. This insistence, in turn, presumes (sometimes explicitly provides for) a means of translating individual perception into theoretical concepts and back again. These translations necessarily involve language, both in terms of its underlying logical and structural possibilities and its routine practice and use. Perhaps the most important and widely shared principle guiding the selection of conceptual commitments in the process of theory construction is the necessity of "falsification" (that a hypothetical proposition be susceptible to disproof by way of empirical demonstration). Karl Popper gives us a strong form of the "falsification" requirement as it applies (primarily) to the natural sciences. In what ways, if any, might Hollis and Smith change the requirement in the construction of social science theories?

Required:


Recommended:

Sixth Session (February 25): The Interdependence of Theory Construction and the Construction of Social Reality.

We cannot perceive and interpret reality in the absence of language. Language, in turn, cannot organize reality without presuming both the construction of entities (such as individual people), assigning those entities properties (such as life and wills), and then inferring causal connections between those entities and social action (in the form, for example, of verbs such as winked, spoke, and prayed). Language, in other words, both contains and operates through a rudimentary social theory (actually, many partially developed, often imprecise, and sometimes inconsistent social theories). An important part of scientific practice in both the natural and social sciences involves distinguishing the language of research from everyday language by formalizing the definition of entities, establishing mutually-exclusive and exhaustive typologies of properties, and proposing empirically falsifiable causal connections. In the process, the reality we have theorized becomes socially constructed in a way that should not be confused with an "objective reality" that is independent of the perceiver. In fact, we might even say that theoretical systems often become a filter through which we perceive social reality by identifying the relevant entities and the causal relations that link them. Everything else becomes irrelevant "noise."

In the readings this week, we pay special attention to the construction and deployment of social collectives and institutions in social science theory. Eisentadt, for example, constructs "historical bureaucratic empires" as a category to which individual political systems might be assigned. As you read the selection from his book, carefully consider what kinds of propositions (hypotheses) might utilize this category and what role they might play in those propositions. When is Eisenstadt constructing a taxonomy for merely organizing historical information and when is he actually proposing claims concerning the nature of social reality? While the Daston and Galison reading mostly focuses on the natural sciences, we can, I think, apply their typology of "truth-to-nature," "objectivity," and "trained judgment" as distinct approaches to the doing of social science research and, as such, alternative methods of constructing the social world which we study.

**Required:**


**Recommended:**


Seventh Session (March 4): The Unity of Knowledge.

Seventy-odd years ago many scholars enthusiastically embraced the idea that all scientific knowledge could be "reduced" and "translated" (using those terms very carefully) so that it rested on a common foundation. That foundation was considered both to provide: (a) a true understanding of the real world and how it could be interrogated and (b) a mutually productive exchange of ideas and concepts as the various academic disciplines and research communities agreed on a common lexicon which, in turn, embedded a shared agreement on how the scientist related to that real world. From the perspective of the social sciences, the major problem with this project was how it "reduced" and "translated" human behavior into this lexicon. It is almost impossible to understate the enthusiasm and fervor with which logical positivists embraced this project. As the selections from the Foundations of the Unity of Science demonstrate, many of them felt that they were on the verge of a sweeping revolution in the way that science and humankind interpreted and interacted with the world. However, the problems that would later undermine this project were already beginning to surface, particularly in the semiotic analysis in the Morris chapter. Although Skinner was a relative latecomer, his work represents one of the most ambitious attempts to remake social science by avoiding analysis of subjective perception and understanding. When reading his book, pay close attention to "conditioned reflex" and to the "three links" in his "causal chain." While their reasons wildly vary, most social scientists have abandoned attempts to reduce all human behavior to purely physical manifestations (and thus empirically accessible). On the other hand, some disciplines are more or less compelled to adopt a "behaviorist" stance anyway simply because of the limitations imposed upon them by the nature of the evidence with which they work. And behaviorism tends to slip back into analysis whenever we try to distinguish what people think from what they do.

Required:


Eighth Session (March 11): The Practice of Science and the Organization of Social Science Disciplines.

As even the most superficial survey of the various disciplines that comprise the social sciences will demonstrate, the study of human behavior proceeds along many distinctive trajectories, each of them resting upon mutually incompatible assumptions concerning the nature of social knowledge and the way in which that knowledge can be produced. The question we ask this week is how these separate and distinctive orientations toward the study of human behavior are theoretically justified and maintained. Put another way, we will attempt to study how it is that the various social science disciplines maintain and insist upon their (relative) autonomy from one another when, at least superficially, at least all but one of them (and probably that one as well) must be “wrong” in the sense that they are each grounded in a mistaken fundamental assumption concerning the primary principles governing human behavior. Bourdieu and Collins describe ways in which academic communities might themselves be analysed. Schumpeter gives us examples of the way in which the social considerations that loom so large in Bourdieu and Collins are set aside when an academic community presents itself and its work to the rest of the world.

Recommended:


Part II

Individual Comprehension, Social Relations, and the Social Sciences

Required:


Recommended:

Ninth Session (March 18): The Self-understanding of Individuals and Interpretation of Their Behavior.

We usually assume that individuals have reasons that justify and guide their decisions and, thus, their behavior. These reasons, as a first approximation, can be revealed by asking them: "why did you do that?" However, that question frequently only provokes further questions of the same sort, rather like the three-year old who asks a parent an endless series of questions about what seems, to the parent and to the person the three-year old is curious about, to be perfectly prosaic behavior (such as waving to a cab driver on a public street). The child's questions and the parent's answers, of course, constitute a socialization into a particular culture's social reality which, once properly socialized, we take for granted. Other cultures, including enclaves within what we consider our own, similarly socialize individuals into their own, distinctive social realities. The question this week is how do we come to understand what is "taken for granted" in those social realities different from our own and how much must we understand before we can interpret their behavior. In many ways, social science research often implies the cultivation of "empathy" as an interpretive technique, a technique that must then somehow make known to other analysts, through a common language and logic, what was found. But empathy is not the same thing as self-understanding.

Required:


Recommended:


Tenth Session (April 8): Micro-foundations for Macro-theories.

The micro-foundation of a theory is composed of the smallest unit of analysis and its logical relations to other units. For example, a "social
"act" involving at least two individuals might be such a unit. One important question is whether or not all social science theories that construct and utilize macro-concepts (e.g., the "state," "society," "religion") must have micro-foundations. "Must" in this case refers to the requirement (at least as a logical possibility) that macro-concepts can be disaggregated into smaller components that can then, after identification and analysis, be reassembled once again into these macro-concepts.

There are at least two possible ways of interpreting this possibility. On the one hand, we might require that all macro-concepts must have micro-foundations and that these can be identified (logically deduced) even if the analyst who initially created these macro-concepts failed to posit those foundations. We might thus require that we can logically deduce (and thus impute) micro-foundations for any system in which they are initially lacking. This requirement might even allow that those micro-foundations change significantly as we move up the scale from, for example, small groups in which everyone knows the others to large communities in which individuals know only a very small proportion of the others. In that case, the problem is to specify that change and work it into the larger scheme. From this perspective, to say that a system "lacks micro-foundations" indicates that the system is incomplete but does not rule out the possibility that these might be provided.

On the other hand, we might concede that some theories contain macro-concepts that logically preclude the possibility of micro-foundations. That possibility might be precluded either because the abstract concepts in the theory actually assume that the analysis of things like "state" and "society" are not the direct product of, for example, individual acts or that the micro-foundations that are implied by the system are, in fact, contradicted by social reality (e.g., not tenable as explanations of individual behavior). The former possibility might interpret, for example, the formation of macro-concepts (such as the "state") as the unintended consequence of individual acts in conjunction with random environmental effects. But once the state is formed, it then exhibits behavioral regularities that can be generalized into a theoretical system. The latter possibility might entail the construction of macro-concepts logically deduced from admittedly unrealistic (i.e., false) micro-foundations. In that case, only the macro-concepts enter into empirically testable propositions. In the former case, micro-foundations are dismissed as irrelevant because they cannot be connected to (produce) macro-concepts through intentional action. In the latter case, micro-foundations are invoked as idealistic extensions of the system with little or no bearing on the actual behavior of individuals. All of this is admittedly a large topic for one weekly session...

Required:


Recommended:
Eleventh Session (April 15): The Inter-translation of Social Reality and Language.

The way in which we distinguish between different objects and actions in social reality (taxonomies and categories) is contingently related to the theoretical systems that we construct. While it is possible to create taxonomies and categories that lack a theoretical rationale (in the sense that they do not anticipate use in theoretical propositions), all theories create taxonomies and categories. One of the major questions in the study of social behavior is whether the individuals and societies that are studied must recognize and understand same taxonomies and categories with which the analyst constructs a theory. This would be the case, for example, in systems in which individual (or collective) intention and meaning played a central role because the analyst would insist that the actor’s intention and meaning constituted the empirical material addressed by the theory. However, those systems that downplayed individual (or collective) intention and meaning might very well construct taxonomies and categories that the individuals and societies do not rely upon in their organization of social reality in everyday life. There are, of course, many possible variations between these two extremes. In the readings this week, we are thus primarily concerned with the way “social reality” as empirical data is categorized and classified by language both from the perspective of the individuals who are analysed and by the analyst.

Required:


Recommended:


Twelfth Session (April 22): The Inter-translation of Language and Mathematics.

Many, if not most, social scientists distinguish between: mathematics (e.g., statistics) as an instrument for discerning patterns in human behavior and language as the form in which those patterns and relationships are articulated, summarized, and interpreted. In some instances (e.g., game theory), research primarily uses language to define symbols, categories, and concepts and the logical relationships between them. While this research may offer real world examples as illustrations as to how the findings might entail empirical applications, these examples normally use language sparingly and, in addition, do not constitute “tests” of the what the research has produced. Instead, the abstractions and logical deductions employ theorems and assumptions that are similar to those in mathematics in that they are basically tautological and self-contained as a logical system. If the analysis does not produce empirical implications, the only conclusions that are produced are other logical statements entirely composed of symbols that bear no clear (meaning possibly falsifiable) relation to social reality. The logical manipulation of symbols thus constitutes the primary form of data analysis. If the analysis does produce empirical predictions, those implications must be “retranslated” into ordinary (academic) language that relate the prediction and its logical derivation to empirical evidence.

By contrast, most social science research interactively engages empirical evidence. In this engagement, induction and deduction are almost seamlessly interwoven into research. As “pure types,” neither induction nor deduction alone can give rise to a scientific theory. However, in practice, they do combine in a process that produces categories and concepts that “strip” social reality of unnecessary complexity (e.g., both irrelevant general properties and idiosyncratic detail). This process necessarily turns thick description into a lexicon of abstract concepts. These abstract concepts both generate and are subsequently deployed within their own logical system. That deployment produces propositions that can be “tested” against social reality. In those tests, the concepts are made empirically relevant (i.e., turned into language in the ordinary sense) through rules of application (e.g., formal definitions that describe what characteristics a social situation must display in order to count as a case of something). Colloquially, this retranslation of “abstract concepts” into “ordinary language” is often referred to as “operationalization.”

The important thing to note is that both approaches (the first involving the manipulation of symbols with “pure logic” and the other interactively producing categories and concepts by observing actual behavior) move between forms of ordinary language and more or less formal logics composed of abstract concepts, categories, and relations. But it is also important to note that the way in which we analyse these moves differs in significant ways depending on: (a) what kind of system it is; and (b) what the analyst states as his or her intention. In some (and perhaps most) cases, we must distinguish between the analyst actually does in making these moves and what they say they are intending to do.

Required:

Thirteenth Session (April 29): Prediction.

Many scholars maintain that the purpose of constructing theoretical systems of social behavior is either to "understand" why people do what they do or, what often seems to amount in practice to the same thing, to "predict" what they will do in similar situations in the future. Here we want to focus on the relation between understanding and prediction. For example, by studying the rise of absolutist monarchies and their relations with urban commercial elites, we can better understand the transition from feudalism to capitalism in early modern Europe. But we cannot predict when and where future transitions in Europe might occur because the subcontinent no longer contains a feudal society. However, we might contend that a better understanding of the transition would improve our ability to predict future, similarly massive transformations of the political economy. In order to do that we must construct categories utilizing generalizable properties that unambiguously distinguish between actors, institutions, and events that both apply in specific historical situations (e.g., early modern Europe) and yet logically correspond to ostensibly equivalent categories in very different historical situations (such as the modern world). Very similar challenges are associated with cross-cultural analysis within the same historical period. When we do not believe that we can meet such challenges, we often say that we are setting "boundary or scope conditions" for a system. The question is whether we can set such conditions without knowing (and knowing rather exactly) what is on the other side of the boundary and thus outside the scope. If so, what we need to know is how human behavior can be explained on the other side of the boundary (an otherwise arbitrary declaration that it is "off-limits" should not be viewed as particularly satisfactory). We should also be aware that, at one extreme, we could always set boundary or scope conditions in such a way as to encompass only one, particular situation (which would thereby be designated as unique). At the other extreme, we might set no conditions on a theoretical system and thereby invite universal application both historically and cross-culturally. The construction of analytical units thus simultaneously and unavoidably implies (by extension and restriction) the definition of a "comparative field" (within which the theoretical expectations would be relevant).

Required:

Fourteenth Session: (May 6): Conclusion and Overview.

Required:
