# Ayer, Schutz and Garfinkel: Ethnomethodology and the impossibility of a social SCIENCE Richard Heyman

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#### Abstract

A. J. Ayer distinguishes between synthetic propositions, which must be tested against the facts of the empirical world, and analytic propositions, which depend for their validity on the definitions of the symbols they contain. Alfred Schutz writes, "The facts, data, and events with which the natural scientist has to deal are just facts, data, and events within his observational field but this field does not "mean" anything to the molecules, atoms, and electrons therein. Yet the facts, events and data before the social scientist are of an entirely different structure ... It [the social world] has a particular meaning and relevance structure for the human beings living, thinking and acting therein." Harold Garfinkel, in his formulation of the work of ethnometholodogy, combines the concepts of indexicality and reflexivity to argue that these are irremediable properties of all social phenomena, thus making these phenomena massively contingent, created and intersubjective. Taking the arguments of these three scholars this paper argues that a science of the social world is an impossibility because understanding the nature any phenomenon has more to do with the ontology of the phenomenon than with the method used to study it. There can be no scientific claims to knowledge from the social sciences because social phenomena don't exist as meaningless constructs as do physical phenomena; they exist as meaningful constructs and can never be more than examples of Ayer's analytic propositions, Schutz's meaningful relevance structures and Garfinkel's indexical and reflexive expressions. Social phenomena are inescapably ambiguous, analytic and tautological.

In 1995 I presented a paper to members of the American Association for Public Opinion Research at their 50<sup>th</sup> anniversary convention in which I argued that public opinion research as they were doing it could not tell them what they wanted to know (Heyman 1995).

I went on to show them why they could not claim to understand the meaning of people's answers to questions in a public opinion poll without doing a number of things they never did, and even then, in principle, they could not really know. After making my presentation to a large but generally unenthusiastic audience, some people came up and told me that they understood what I was saying and generally agreed with my position. Why, I asked, if they understood and agreed with the impossibility of knowing what they claimed to know, did they not stop doing it? They simply shrugged and said that they were doing their best to ensure that their polls were valid and reliable; in other words, good social science research.

In fact, this told me that they didn't understand what I was saying, because I was telling them that their polls could never be valid, nor reliable, nor scientific. I was telling them that they ought to stop passing off public opinion research as scientific knowledge about what people thought, felt, had done, or were planning to do supposedly "accurate to within three or four percentage points, nineteen times out of twenty," as the claim normally is stated. This they were not prepared to do because they knew how useful their research was. It didn't matter to these researchers that useful didn't necessarily mean truthful. Thousands of people used the information they produced, were happy that they had it to use, and in many instances were prepared to pay good money for it.

The most important thing I took away from that experience, and from a number of similar experiences in which I have attempted to explain to social scientists why their research couldn't be scientific in the sense that the physical sciences were scientific was this: people don't really care about the kind of argument I'm making. They don't care, or they don't understand, or both. They are not bothered by the fact that their knowledge claims are no more, or less, than commonsense theorizing and thus privileged only in the sense that they had given more thought than other people to social phenomena like politics, the economy, education, public opinion and so on.

Nevertheless, I think it's important that we recognize and distinguish between knowledge claims that come from the physical sciences and those that come from the social sciences. Politicians, business people, educators, social scientists and others invoke scientific studies to justify their policies and actions, when, in fact, the studies they use are not, and never can be, scientific. They are, perhaps, best described as commonsense theorizing, expressions of values and as tautological.

In supporting my argument I want look briefly at the work of A. J. Ayer (1990), Alfred Schutz (1962) and Harold Garfinkel (1984) and how their arguments about the ontology and epistemology of the social world, as distinct from the physical, support the position that makes itself known in many aspects of ethnomethodological concepts and research, which might be thought of as holding a position in the social sciences that's equivalent to the position that medicine holds in the physical sciences, a meeting place of the social and the scientific, the analytic and the synthetic.

#### THE MEANINGLESS WORLD AND THE MEANINGFUL WORLD

As a way of beginning, I want to present the observation of Alfred Schutz (1962) who, in his critique of the methodologies of the social sciences, proposed the following:

... there is an essential difference in the structure of the thought objects or mental constructs formed by the social sciences and those formed by the natural sciences ... The world of nature, as explored by the natural scientist, does not 'mean' anything to molecules, atoms, and electrons. But the observational field of the social scientist—social reality—has a specific meaning and relevance structure for the human beings living, acting , and thinking within it." (1962: 59–60)

I take Schutz to mean that we can know nothing about our social world through science. That, for all practical purposes our world has two different kinds of objects in it. It has physical objects. These don't need people in order to exist. If there were no people on earth it would make no difference to things like rocks, atoms, electrons, molecules, trees, stars, planets, and so on. They don't depend on our seeing them, talking about them, labeling them, measuring or studying them in some fashion (i.e., knowing about them), nor the meaning they have for us in our daily lives. Their world is meaningless to them, although we may give them meaning. They simply are what they are.

And it has social objects. Social objects depend on people for their existence. In this respect they can't be known or studied scientifically as they exist in and through the meaning we give to our life experiences. In brief, physical objects exist as phenomena meaningless unto themselves. Social objects exist as phenomena only in and through our meaning-making. And it is these 'objects' that social scientists study. The physical sciences study a meaningless world; the social sciences study a meaningful world. That is the crucial difference that creates the epistemological and ontological problem for social scientists. When they attempt to make knowledge claims about the social world they literally don't know what they're talking about, in the sense that the phenomena of interest only exist as meaning in the minds of people and in the interpretation of human interaction.

The consequence of this difference is that social science, in all its many rigorous and nonrigorous permutations, is not science at all and its findings are no more, or less, than stories and opinions, commonsense and nonsense. This is not a problem that can be fixed. It's not a function of inadequate intelligence of social scientists, poor research methods, or faulty equipment. Social science can never be science. Whether we are hearing experts commenting on the latest figures on inflation, listening to self-help gurus tell us about the latest scientific approach to making our dreams come true, the true measure of happiness, or reacting angrily to the findings of the most recent scientific study of the relationship between race and intelligence, what we are being given is not scientific knowledge.

Social scientists have been unsuccessful using natural science methods in their efforts to know and make claims about the social world and useless in expressing testable relationships between social phenomena. A. J. Ayer in *Language, Truth and Logic* (1990) suggests a reason for this derived from Kant when he distinguishes between synthetic and analytic propositions. He writes:

... a proposition is analytic when its validity depends solely on the definitions of the symbols it contains, and synthetic when its validity is determined by the facts of experience. "[Analytic propositions] do not make any assertion about the empirical world. They simply record our determination to use words in a certain fashion. ... [N] o observation could ever refute the proposition that '7 + 5 = 12' because the symbolic expression '7 + 5' is synonymous with '12'" (Ayer 1990: 73). Thus 7 + 5 = 12 is an analytic proposi-

tion, true by definition. "[A] proposition is analytic if it is true solely in virtue of its constituent symbols, and cannot therefore be either confirmed or refuted by any fact of experience " (Ayer 1990: 185).

I argue that virtually all assertions about social phenomena are analytic propositions. I further argue that the importance of this distinction rests in the issue of the refutability of knowledge claims. Analytic claims cannot be refuted because they are true or false by definition. Social theory can't be tested because it can't be refuted, only said to contain the wrong definitions of the words being used that, I suggest, both define and create each phenomenon in the theory. IQ is such a phenomenon.

Commonsensically we might all argue that some people are better at some things than other people. But can such a commonsense observation supply the essentials of a social fact called IQ and a formula for intelligence which proposes that:

$$IQ = 100 \left( \frac{mental age}{chronological age} \right) \Rightarrow$$

Ayer would argue that it is a tautology, an analytic proposition, true by the definition; IQ exists as mental age divided by chronological age. Neither mental age, nor chronological age, nor IQ exists apart from their psychometric and cultural definitions. IQ contains no information about a relationship between empirical facts. IQ = mental age/chronological age × 100.

#### WHAT MAKES SCIENCE SCIENCE?

The term science has a number of dictionary definitions, but they all boil down to the phrase: the state or fact of knowing. Science is the English equivalent of the Latin word scientia, from scire, to know. Many of the dictionary definitions don't help us understand how scientific knowledge is different from activities such as knowing how to sew, or cook, or fish, or read, or have a conversation with a friend. Definitions don't always help settle arguments about what things are because definitions are no more, or less, than stipulated meanings of words. They represent a lexicographer's decision, based on selected observations of common usage, to give a word a particular meaning or set of meanings. Definitions can overlap and they don't solve problems of the multiple meanings of words. They tell us what counts as something rather than what it is.

The word science, for example, has more than one meaning. In everyday talk, anything that is done in a systematic way can be called a science, like management science, or military science. Science, in the expression natural science means something quite different than science in the expression social science. What makes an activity science as done by natural scientists like chemists, biologists, and physicists? Ernest Rutherford, the English physicist, remarked, "All science is either physics or stamp collecting" (Birks 1962: 108). Going a bit further, Sir Karl Popper said, "I shall certainly admit a system as empirical or scientific only if it is capable of being tested by experience. These considerations suggest not the verifiability,

but the falsifiability of a system is to be taken as a criterion of demarcation ... It must be possible for an empirical scientific system to be refuted by experience" (Popper 1959: ch. 1, sect. 6). Finally, a 19th century French physiologist is reputed to have said, "Art is I; science is we." Art is personal; science is public.

The picture of science culled from these pithy observations is of an activity that ideally produces publicly testable and falsifiable propositions about the world. For example, if we claim that aspirin helps prevent, or minimize the damage from heart attacks, we must be able to test that proposition so that everyone, at least in theory, can see that aspirin does or does not do what we claim it does. Ideally, our claim must specify the conditions for testing the effects of aspirin on the heart, and then predict what we should observe if our claim were true, or false. We must then proceed to see if our predictions are borne out by the evidence. What we can claim to know rests on the outcome of this procedure.

In practice we divide modern science into two distinct camps: (1) the natural sciences, also known as the physical or empirical sciences whose interests are in the general and specific principles, called the laws of nature, that govern the actions and relationships of objects in the universe, and (2) the social sciences, also known as the behavioral sciences, which study the non-physical aspects of people and society, through the methods of sociology, anthropology, political science, economics, history, psychology and others. The natural sciences are often called the hard sciences and the social sciences called the soft sciences. I would argue that using other terms to characterize the differences, such as rural and urban sciences and pure and applied sciences (Becher and Trowler 2001) doesn't advance our understanding of the essential distinction between studies of the material world and studies of society.

# SOCIAL SCIENCE AS COMMONSENSE REASONING

In a recent article in the "Sunday Review" section of the New York Times, two psychologists report their research on 'costs' of parental involvement in their children's lives (Finkel 2013). They describe two research studies on how American parents might be harming their children by doing too much for them. For example, one study has found that "the more money parents spend on their child's college education, the worse grades the child earns." Another study they refer to has found that "the more parents are involved in schoolwork and selection of college majors ... the less satisfied college students feel with their lives." Without seriously questioning these studies they go about explaining the results. Their explanations range from "certain forms of help can dilute recipients' sense of accountability for their own success", e.g. "The college student might think: If Mom and Dad are always around to solve my problems, why spend three straight nights in the library during finals rather than hanging out with my friends?" They then report a study of their own that asked "randomly assigned American women who cared a lot about their health and fitness to think about how their spouse was helpful, either with their health and fitness goals or for their career goals." They found that "Women who thought about how their spouse was helpful with their health and fitness goals became less motivated to work hard to pursue those goals: relative to the control group, these women planned to spend one-third less time in the coming week to

pursuing their health and fitness goals." Without going into a critique of this report in detail and without having looked at the published papers as they appeared in respected sociology and psychology journals, I would like to simply observe that the reliance that these researchers place on our taken-for-granted understanding of commonsense terms like spending money, grades, less satisfied, spouse, helpful, fitness, goals and motivated is typical of social science research. They use them as though they were technical terms with no ambiguities, no vagueness. They ignore Garfinkel's notions of indexicality and reflexivity as applied to the practical reasoning people use in producing and rendering accountable the everyday affairs of our lives, whether in family life, work life, or in researching and producing psychological and sociological studies of the meaning of human thought and action (Garfinkel 1984: 1).

In respect to the argument of this paper I use this report to stand for all social science research insofar as such research must be inescapably indexical and reflexive in all its aspects the very words used in formulating the research question or hypothesis, the variables used, the data defined and collected and the conclusions reached. None can escape the problem of all of these elements as existing in and as the meanings people give to their interaction with others. There are no meaningless objects out there called money, grades, less satisfied, spouse, helpful, fitness, goals and motivation which can be scientifically theorized about, hypothesized about, nor tested, nor whose behaviour can be predicted using scientific experimentation as means to that end.

Regardless of the work and thought put into producing operational definitions for concepts like money, grades, helpful, spouse, fitness, motivation and goals, these researchers can never go beyond choosing one commonsense definition rather than another. They can't avoid the limitations of their studies making analytic rather than synthetic claims because they are talking about people's meaning-making, theirs and their subjects, and meaning-making is what makes their work and that of their subjects accountable. As Garfinkel says about his analysis of social science research, he "seek[s] to treat practical activities, practical circumstances, and practical sociological reasoning as topics of empirical study, and by paying to the most commonplace activities of daily life the attention usually accorded extraordinary events, seek to learn about them as phenomena in their own right" (1984: 1). This suggests an understanding of science as public, predictive, testable and falsifiable, and social science as relentlessly ambiguous, analytic, tautological and commonsense.

Commonsense is not a scientific or technical term so the question works better as—what counts as commonsense? It is the stuff we all assume is true about the world. Commonsense can differ among societies, cultures and groups. That remark in itself is a commonsense remark. As Garfinkel says above commonsense is practical reasoning. Some commonsense notions in the United States and Canada might include the following:

- Background checks will not reduce gun violence
- It takes a good education to get a good job
- Hard work will pay off in the long run
- Big government is no good
- Most poor people are poor because they're lazy

- People are naturally sinful
- The Ten Commandments are a good set of rules on which to model our behavior
- Violent movies cause violent behavior in young men
- IQ tests are a good measure of intelligence

These views may not be shared by all members of any group, however for some people believing them is the measure of one's group membership. That's why they are commonsense. They are what people who claim to be members of any group take for granted. If any member doesn't take their truth for granted, their membership may be in jeopardy. But all this that I am saying is only true by definition. It is not verifiable or falsifiable.

Commonsense presents itself as "the reality of everyday life," to borrow a phrase from Peter Berger and Thomas Luckmann's excellent discussion of commonsense in *The Social Construction of Reality* (1973: 35). Garfinkel (1984) has called commonsense reality "the seen but unnoticed" assumptions we all have.

Commonsense differs in important ways from science. As the eminent philosopher, John Searle, put it in the BBC Reith Lectures (1984: 71), science, in its ideal version, explains things by showing how their occurrence fits specific scientific laws of cause and effect that can be deduced from other laws, experimentation and observation. If these laws fail to accurately predict what happens then they must to be discarded and new ones created to account for the observed phenomena. Commonsense is rarely so rigorous.

Commonsense uses things like recipes, maxims, traditions, rules of thumb, things that everybody knows to be true. Scientists certainly use commonsense in their work, but also use mathematics, experimentation, rigorous, systematic observation, and rules of evidence. We verify the truth of commonsense knowledge by seeing that it works for us, it meets our needs and practical interests. We verify the truth of scientific knowledge by seeing that it accurately predicts phenomena regardless of the personal identity, needs or practical interests of the observer.

#### THE METHOD(S) OF SCIENCE

Philosophers have disagreed about whether or not there is a single scientific method that unites all science, including a science of the social world. Critical rationalism (Hume 2003; Popper 1959; Winch 1958), and in a similar vein of thought, critical realism (Bhaskar 1998), seems to be the predominant view of science as a distinct activity and a critique of the human sciences. It says that scientific theory can never be absolutely proved through empirical observation of instances of an event because there is always the chance that at some future time an observation might contradict that theory. In other words observation is finite and future instances are infinite. This rules out induction (conclusions based on repeated observations) as the only method of science for establishing truth. The most we can ever hope for is a statement of probability, in other words that the relationship between occurrences is greater than pure chance, but less than perfect cause and effect. The theories and laws of nature that we use to explain relationships are statements of what seems likely to be the case as far as we can determine it to this point in time.

The method of science therefore depends on the refutability of theory rather than on its provability. Popper proposed the hypothetico-deductive scheme of scientific investigation in which three elements are critical: first, a law which states general relationships between things and events; second, a statement of initial conditions which explain the specific setting in which the law will be observed; and third, the event(s) to be explained, in other words, the facts of the matter.

The English sociologist, David Lazar, has used the classic study of suicide by the French sociologist, Emile Durkheim, to illustrate Popper's three elements (1998: 11). Durkheim believed that the fact of lower suicide rates found among Catholics compared to Protestants, in French society, could be accounted for by the fact that Catholicism provided a more cohesive social system for the individual member than Protestantism. Applying Popper's hypothetico-deductive scheme to Durkheim's hypothesis we get the following: the law states that, "Suicide varies inversely with the degree of integration of the social groups of which the individual forms a part," the initial conditions state that, "Catholicism binds the individual into a more socially cohesive community than does Protestantism," and the event to be explained is that, "the suicide rate for Catholics is lower than that for Protestants." This formulation of scientific method closely follows the formal logic of the Aristotelian syllogism in which we have a major premise, a minor premise and a conclusion. If both the premises are true then the conclusion must also be true. The classic formulation of the syllogism is:

Major premise (law): All men are mortal; Minor premise (initial condition): Socrates is a man; Conclusion (event to be explained): Socrates is mortal.

In our example from Durkheim, who was a firm believer that social facts needed to be considered the same as physical facts, the formulation would be:

Major premise (law): Suicide varies inversely with the degree of integration of the social groups of which the individual forms a part (as social integration goes up, suicide rates go down, and vice versa);

Minor premise (initial condition): Catholicism binds the individual into a more socially cohesive community than does Protestantism;

Conclusion (event to be explained): The suicide rate for Catholics is lower than that for Protestants.

Everyone can see that the critical element of the syllogism is the truth of the two premises. If they are not true then the causal relationship between the conclusion and the premises is broken. So the question is, what method(s) can we use to establish the truth of the premises (laws and initial conditions)? And the answer in science must be—observation and experimentation. However, we must first determine exactly what things are claimed to be in relation with one another, how they exist, and how they can be observed or measured. Paul Feyerabend, another 20th century philosopher of science, disagreed with Popper and argued that there was no one thing we could call scientific method (2010: 45). In his view, anything goes as long as it will generate reliable scientific results. In other words good scientific methods produce good science, but we can't prescribe one method to the exclusion of others.

Nevertheless, both Popper and Feyerabend, and most, if not all, scientists, would agree that the logic of scientific inquiry has certain specific requirements for any activity to be called science, whether we are talking about scientific investigations of the natural world or the social world. First would be accurate prediction of future events using a causal model of explanation. In this model every event must have some antecedent cause. Whether the cause is stated in propositional form, "The flame caused the temperature of the water to rise to 212 degrees Fahrenheit whereupon the water turned to steam," or is simply implied, "The water turned to steam," the cause is still there. The logic of science requires that events be caused even if that cause is not apparent at the time.

Second, the logic of causal relationships demands that objects in such relationships can be literally defined. Put simply, we have to know what we're talking about. We need to be able to place objects into classes of things according to their defining properties. Such objects must have stable and discrete properties so that we can distinguish between objects that are the same and those that are different and so that we know that these objects are what they are and not something else. (This is an ideal which the physical sciences can't always achieve, as we well know from the work in quantum physics.)

Whenever we want to scientifically study relationships between objects we need to know what the objects are, that we are studying "x," not "y." This may seem like an obvious requirement, not just in science, but in life in general. If we are at the local supermarket looking to choose the ripest watermelon we'd be fools if we compared our watermelon to a honeydew melon rather than to another watermelon, thinking that since they were both melons it wouldn't matter. It would be analogous to saying that it doesn't matter whether we send our child to Harvard or to South Podunk University since both are colleges. Yet we find more complex versions of this kind of reasoning in many social scientific studies where we lump social objects, like colleges or religions, together, and give them an identity that they don't really share.

#### THE OBJECTS OF SCIENTIFIC STUDY

Two logical principles, "the law of identity" and "the law of the excluded middle," express these requirements for precise description of the objects of scientific study (Mehan & Wood 1975: 64–65; Ayer 1990: 75–77). The law of identity states that all identical things share the same properties so that no property will distinguish one identical thing from another. For example, this law requires that every molecule of  $H_2O$  (water) would be identical in all its essential characteristics to every other. No "object" called an  $H_2O$  would be different in any way from any other water molecule. The law of the excluded middle states that a proposition must be either true or false, in other words, that a proposition and its contradiction cannot both be false. Objects of scientific study may not be two things at once. They must be mutually exclusive. A molecule of  $H_2O$  could not be a molecule of NaCl (salt).

Unfortunately, to confuse the issue somewhat, modern experimental physics tells us that some physical things, like light, seem to be two different things. Light can appear as particles, or as waves, depending on how we measure it. Nevertheless, as Bruce Gregory, Associate Director of the Harvard-Smithsonian Center for Astrophysics, has pointed out (1989: 95), as long as we view science as a source of reliable predictions about the behavior of the world rather than an accurate picture of that world, science works quite well. And, I think it safe to assume that "light" doesn't care what we think it is or how we measure it; it keeps on shining.

These logical principles work very well for the natural sciences, the problems with light notwithstanding. In the social sciences there are considerably more problems that crop up when we try to make our objects of study fit this logic. For example, how do the things in Durkheim's theory of suicide conform to these principles? The terms we take to be important in the major premise are—suicide, integration, social groups, individual, part; in the minor premise—Catholicism, binds, individual, socially cohesive community, Protestantism; and in the conclusion—suicide rate, Catholics, lower than, and Protestants.

Do these terms conform to the laws of identity and the excluded middle? Are they unambiguous, constant objects. We can argue quite successfully that they only exist in the meanings we give to life experiences as expressed in language and behavior. All of these "objects" are our interpretations of our encounters with other people—what they have said, or written, or done. The label "suicide" depends for its official existence on a medical examiner's interpretation of the reasons for somebody else being dead. "Catholics" are not all the same for being Catholic. "Integration" can mean many different things to people. "Socially cohesive community" does not have one objective meaning. They are all analytic objects that exist as definitions but not as separate, discreet and unambiguous social objects apart from those definitions. Durkheim's theory and hypothesis violate the two logical principles required for scientific inquiry. Durkheim's view of the relationship between suicide and religion is just is one of thousands of examples of commonsense theorizing masquerading as science.

## ETHNOMETHODOLOGY AND THE SOCIAL SCIENCES AS SCIENCE

Ethnomethodology, in at least one of its iterations, seeks "to lay bare the participants' ways of producing their activities whatever they were—EM aims at the characteristics, the defining features of mundane activities that mold them into what they are; it explores how an activity is done, what the methods, means and procedures are through which an activity is accomplished" (Arminen 2008: 168).

EM takes aim at the normative social sciences by calling into question their reliance on the taken-for-granted social world while seeking to explicate its numerous features as though they were objects in space. In so doing social science ignores the indexical and reflexive nature of such a world. And for good reason. As Garfinkel points out, "[I]ndexical expressions, by reason of their prevalence and other properties, present immense, obstinate, and irremediable nuisances to the tasks of dealing rigorously with the phenomena of structure and relevance in theories of consistency proofs and computability, and in attempts to recover actual as compared with supposed common conduct and common talk with full structural particulars" (1984: 6). Failing to rely on what everybody knows about particular social phenomena as the foundation of their investigation would make the process of such investigation an infinite regress which sociologists, or others, could not accept and still fulfill their purpose of explicating the social world because the explications would be never ending. It would be 'turtles' all the way down.

To further complicate the epistemological and ontological dilemma for the social scientist from the ethnomethodological point of view, reflexivity rears its ugly head asking researchers to make their investigative resources topics in themselves. But, as Garfinkel observes, they are "not interested" in the sense that they do not see any purpose, or even recognize the need "to make the 'reflexive' character of practical activities observable" (1984: 7–9).

However, if social scientist did undertake this ethnomethodological project it would be analogous to sowing the seeds of their own destruction insofar as in doing so they are undermining the normative assumptions on which their research endeavours are based. They could no longer separate the meaning of their interpretive practices from the context of their subjects' actions and thus doom their own research enterprise. The locally organized and produced meaning and features of social phenomena which ethnomethodology has revealed could no longer be glossed as social *SCIENCE*.

Garfinkel, in his doctoral dissertation (1952) wrote, "The big question is not whether actors understand each other or not. The fact is that they do understand each other, that they will understand each other, but the catch is that they will understand each other regardless of how they would be understood." Most social science research shows little understanding of the indexical and reflexive nature of language and the social world. It sees language as a system of correspondences between word and object. A word, or 'sign' and an object, or 'referent' stand in a one to one relationship in which the word represents the object. Language describes a pre-existing world. It has no role in creating that world. For that reason language it self is fundamentally uninteresting to most social science research. It is a given and it is understood.

Ethnomethodology shows that language only has subjective meaning because all language must be interpreted to be understood. Understanding can't be taken for granted, but must be accomplished through talk, and the more important the understanding the more work we need do to understand as others intend us to. But even this work cannot guarantee understanding.

Social Science research, on the other hand, relies on language having objective meaning. For example, it assumes that questions and answers in polls and questionaires will be understood by researchers and respondents in the same way. It assumes a transparent relationship between questions and answers and between people's accounts of their behaviour and that behaviour itself. As long as we ask the right questions to a valid sample of the population we're interested in, we can take the meaning of answers as unproblematic, we can code them, aggregate them, and make valid generalizations.

## CONCLUSION

The indexicality and reflexivity of the social world is irremediable. The law of identity and the law of the excluded middle are logical principles which must apply to any phenomena be studied scientifically. These logical principles can be applied successfully, if not perfectly, to physical phenomena, but cannot be applied successfully to social phenomena. This is because physical phenomena exist in a state meaningless unto themselves, while social phenomena exist only in and as a meaningful state as we make sense of our world. It is for this fundamental reason that the physical world can be successfully studied by science and the social world can not.

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