Generative mechanisms of causal relations

Having just attended AERA, I came upon a topic that I do have a passion for, so please forgive my briefly relating it to the group.

There is currently a great deal of debate in education / policy / and social science research surrounding causation and how best to study it. Nearly all the debate centers on establishing “x causes y”, and it seems to forgo all discussion and analysis of the generative mechanisms explaining that relation (by “mechanism” I mean the generative processes by which a causal relation comes about). That is, the concern is wholly on finding a relation between constructs, not in understanding why or how the relation occurs. As such, the research effort is concerned with identifying and predicting relations without really understanding the phenomena. Identifying and predicting relations is pretty important, so please don’t think I am slighting this kind of analysis. I am just saying that understanding and advancement of science should also encourage study of generative mechanisms that explain such relations.

To use a simile, the current research effort on causation is concerned with developing something like a Farmer’s Almanac so we can predict how the seasons change and how to read various signs to predict weather. From experience, certain relations are known – when the moon is hazy, rain is coming. Knowing those relations is important as you at least figure out when you can farm. The problem is that there is a lack of emphasis on meteorology, or understanding for how weather works through air masses, solar radiation, warm fronts, cold fronts, etc. The danger in ignoring generative mechanisms is that (a) there is an ecological fallacy possible in most causal relations and (b) that we never fully understand how identified causal relations work.

In their explanations of causal relations, most researchers either infer a mechanism (i.e., instrumental rationality), or they seek a more reductionist research strategy to explain the relation (finding more specific notions of what element of x causes y). I cannot help but think both moves are deficient in some regard. Moreover, I cannot help but think that most explanations draw on a finite set of generative mechanisms (i.e., instrumental rationality, social contagion, social psychological perceptions of imbalance, etc).

Therefore, I would like to propose that (1) we further elaborate and define the notion of generative mechanism; (2) that we identify key mechanisms used in explanations of causal relations in education research; and (3) that we offer concrete ideas for how these mechanisms could be directly analyzed.

I propose we use Hedstrom and Swedberg’s book on Social Mechanisms as a guide (it’s $21 on Amazon) and go from there.