

THE PUBLIC AND ITS  
PROBLEMS IN LIBERAL  
DEMOCRACIES:  
COGNITIVE  
RETROGRESSION,  
EPISTEMIC INERTIA, AND  
CLOSE-MINDEDNESS IN  
PROBLEM SOLVING

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*I must find a truth that is true for me.*

- Søren Kierkegaard

John Dewey (1927) eloquently espoused the merits of democracy in his major political work, *The Public and Its Problems*. While democracy is somewhat flawed, Dewey noted that it was the most practicable and sustainable means to accomplish public interests. He was optimistic.

However, that optimism came with limits. Dewey postulated three requisite conditions for successful democracy: education; effective, uncensored communication; and non-abstract, localized communal associations (i.e., communities) among citizens. Nearly a century has passed since the publication of Dewey's writing, and liberal democracy is more threatened than ever despite massive democratizing forces. People are better-educated, but harbor the same amounts of bias and bigotry. Communication technologies enable cheaper information transmission and freer communal interactions. However,

they don't establish common foundations for citizens and publics to reason and collaborate around social problems.

The arrival of mandated education, effective communication technologies (ICTs), and accessible virtual communities seem to be close to what Dewey envisioned but have not resulted in what he foresaw. The supposed requisites for liberal democracy have become the very things which endanger it. If that is the case, what avenues, if any, might fix the problem? What theoretical frameworks might help Dewey's requisite conditions better support democracy among publics?

We believe that widespread education, increased communication, and mushrooming localized interactions alone are insufficient. Individual citizens are often communal in their own online communities, but it does not heap up to democracy. The modes of cognitive and communicative actions among publics must be understood to put the three requisites into proper work for democracy.

### Cognitive Modus Operandi of Lay Publics

Kim and Grunig (2021) present a theoretical framework to explain how lay publics can develop prolonged and ever-increasing conviction in erroneous or conspiratorial beliefs. This framework elaborates on the differences between two types of problem-solving: progressive and retrogressive. The former, which uses available evidence to determine a reasonable conclusion, has been extensively researched and is often considered the most rational form of thought. However, it is the latter which this research examines most closely.

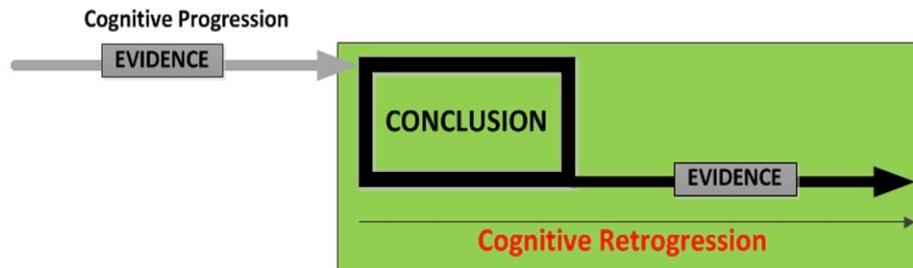


Figure 1. Cognitive approaches in problem solving.

Retrogressive problem-solving uses available evidence to support a pre-arrived conclusion. Counterintuitively, this model suggests that it could be equally rational in problem solving, only easier to misapply.

Retrogressive problem-solving could be a shortcut for the brain. Earlier research has described rational thought as a sequence of steps, including detecting a problem, constructing possible solutions, selecting the best solution, and putting it into action.

However, this sequence is taxing to use for every single scenario. Why invent a dozen ways to move a log if you already know how to move a boulder? Retrogressive problem-solving borrows solutions from similar problems and allows the problem-solver to skip most of the decision-making process.

This leads to the question: how does it get so harshly misapplied? This research suggests a number of reasons that retrogressive problem-solving might cause problems in human behavior. One issue with retrogressive problem-solving is that it can become extended and effortful when the problem solver is preoccupied with sunk costs. Sunk

costs, in short, are the time and energy one has already invested in implementing a solution.

Unlike progressive problem-solving, retrogressive problem-solving has a solution at the start. This means that if the solution turns out to be unworkable, we have wasted time and energy thinking about it—a sunk cost. In order to prevent this, we will seek as much information as possible justifying that solution. We look for similarities between the present problem and similar problems in the past. We look for *how* a solution works rather than *if* it works.

This is where the availability of information plays an enormous role. When we use extended, effortful retrogressive thinking, we filter out information against our pre-arrived solution in favor of evidence supporting it. In doing so, we also transfer our certainty regarding the past problem to our certainty regarding the present problem. In other words, we gain more confidence from each piece of evidence supporting our solution than we lose from each piece against it.

## **Scientific versus Lay Epistemics in Cognitive Retgression in Problem Solving**

Cognitive retrogression in problem solving is not necessarily evil. Scientific epistemic thinking makes great use of prior problem-solving experiences. Scientists frequently deploy “conclusions” drawn from previous empirical research (e.g., literature) and establish untested but likely conclusions from *experiential, factual* referent criteria. In contrast, lay epistemics tend to rely on improvised, often desired premises. That is, lay citizens frequently draw “conclusions” from *expectational, affective* referent criteria -- desired states such as wishful thinking that establish a sense of “normalcy” to unfamiliar problems. Retractability also plays a key role. If problem solvers retract their preset conclusion (expectation) after encountering evidence to the contrary, retrogressive problem solving doesn't hurt. It was a reasonable investment. However, for lay problem solvers, this is not always easy. When faced with evidence that it is time to switch to a different solution or a different method of problem solving, the motivation of

many lay problem solvers to prove their first conclusion only increases.

### **An Internal Enemy to Democracy:**

### **Cognitive Arrest, Epistemic Inertia, and Close-Mindedness in Problem Solving**

All of these factors, cognitive direction, expectational referent criterion, and fixation about sunk cost, are conducive to the phenomenon of “cognitive arrest.” In this process, a person becomes trapped by a pre-arrived conclusion. That person seeks information validating the conclusion--or optimizing its implementation--and gains confidence each time she or he finds such information. The person gains momentum, circling around the conclusion, reinforcing it and ignoring evidence to the contrary--not intentionally but through a conclusion-favoring sense of relevance and reliability. The abundance of information only makes this process easier.

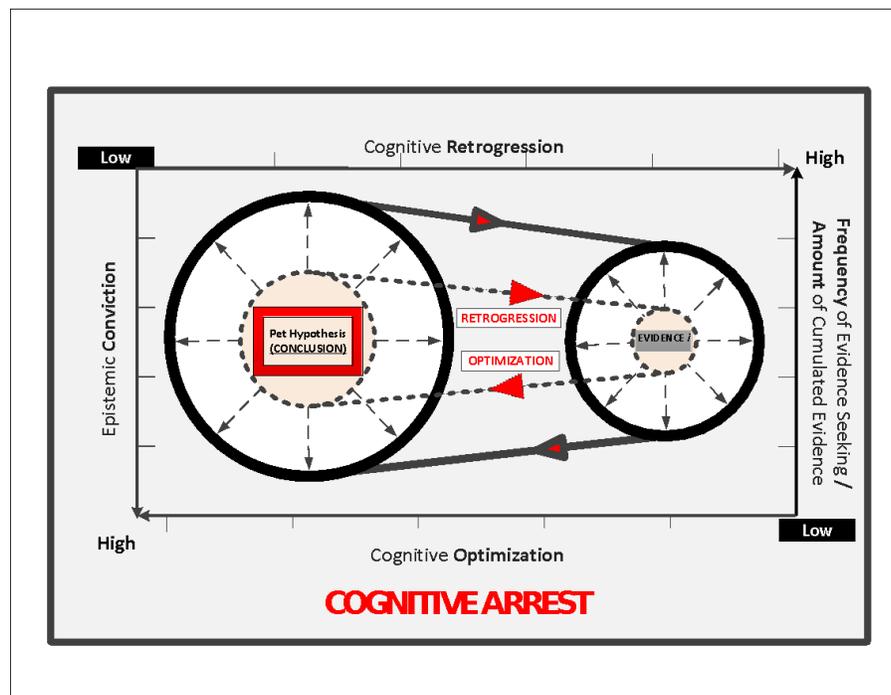


Figure 2. Cognitive arrest to epistemic inertia.

This is the kind of thinking that generates wild conspiracies and tightly-woven information bubbles. This research describes it as a defensive mechanism to preserve the energy which one has already spent. However, conspiratorial thinking has its own momentum, making the problem-solver more likely to favor conspiratorial conclusions in future.

To use a relevant example, claims of voter fraud in the 2020 United States presidential election have incited violent insurrection and brought certain branches of

government to a standstill. Such claims are not new. Much of the contrary evidence comes from tightened regulations and investigatory findings after the 2008 and 2016 presidential elections. However, the credibility of United States government institutions has become a point of contention between political parties. Perhaps certain conditions of the election mirror perceived conditions of voter fraud in other historical moments, or perhaps election fraud is preferable to a reality in which one's favored candidate lost. However, the initial reason for the belief quickly becomes irrelevant. As evidence of vote accuracy increases, fraud-theorists become more vocal. Individuals might conflate personable sources with reliable sources, or memorable incidents with representative ones. They might withdraw from communities who ridicule their theories, reducing their exposure to evidence that could change their thinking. They might seek flaws in widely accepted scientific and factual sources, until the only believable sources of information are those which support their personally validated positions. It is when all of these events

come together that conspiratorial thinking takes hold -- that all questioning stops and cognitive arrest begins.

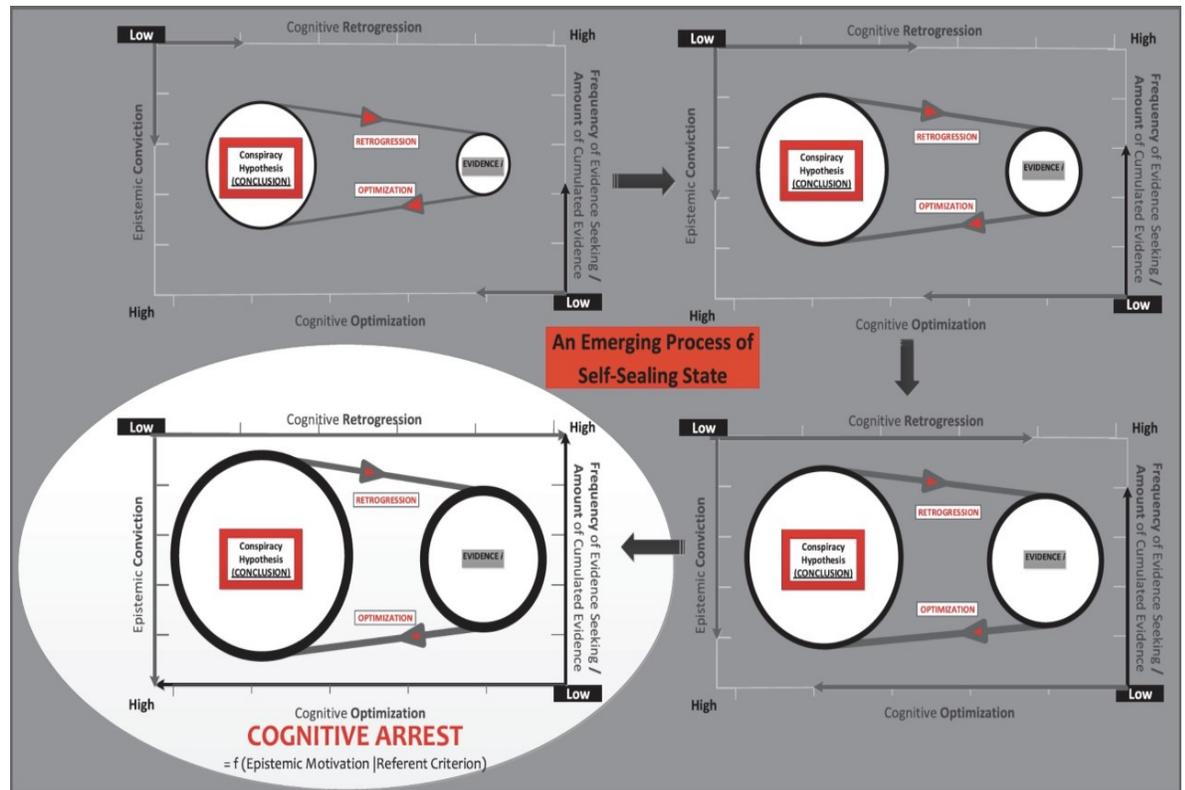


Figure 3. An emerging self-sealing from cognitive arrest.

### Cognitive Prison Break

Today’s world is filled with seemingly irrational arguments and outlandish conspiracies. This seems counterintuitive, given the information we have at our disposal. So how do we escape cognitive arrest? Research shows it’s more easily said than done. Psychological studies have suggested that

many of our decisions are made after the action they encourage. We might reach for a glass of water before deciding to drink it. That's not to say that our decision-making has no bearing. We can certainly stop ourselves if, say, the water is poisoned. But retrogressive reasoning happens all the time in our brains. In order to not miss any easy solutions, it may be our cognitive default.

This theoretical model does not offer an easy answer to the issue. Yet it helps us know that the availability of information has done little to combat it. What may be more important is an emphasis on self-conscious, effortful reasoning and attention to clear, intentional communication. Neither evidence nor argument seems effective in reducing cognitive arrest, so we need to rethink traditional strategies in education or communication with attention to both directions of human thought.

Genuine problem solving begins with identifying a problem's causes. The failure of liberal democracy in digitally networked society is the result of lay publics' cognitive retrogression. Strong motivations, expectational referent criteria, and fixation on sunk costs wheel publics

down a slippery slope of close-mindedness. Dewey's three requisites of sustainable liberal democracy--education, communication, and communal interaction among lay publics--can only work when individuals, groups, and social institutions guard against cognitive arrest. Therefore, saving liberal democracy requires effortful self-reflection and group-conversation that recognize the *direction* of our cognitive and communicative actions. If we want to prevent further violence and discord in the democratic world, we can pave the way forward by encouraging awareness of our own thinking and the use of targeted communicative actions learned through education for problem-solving literacy.

Dewey in fact hinted at these solutions. With ICTs and enabled virtual localities beyond physical boundaries, we can circulate, trespass, and commingle our ideas and formulate as many publics as there are problems. Such communicative interactions, often loud and with intolerable felt difficulties, elicit *problem recognition* about the retrogressive mode of cognitive and communicative actions.

Such settings create meta-communication and meta-cognition of problem-solving.

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