Viewpoint: Crop biotechnology and chemical pseudo-science exposed — Here’s how the ‘dark money’, tort-lawyer funded Heartland Study dupes journalists and co-ops universities

Until the 1990s, research was often low-budget, done in government agencies or industry funded. But as universities acquired expensive analytical technologies, as industry science was labeled as biased, as foundations and activist groups started to fund their own scientists and as the journal publication process changed to a digital, market-driven model, so did the science, the scientist and the scientific method.

We are now in a situation where interest groups can come together to fund researchers who can produce data to meet their political or economic interests. The motivations and methodologies behind the Heartland Health Research Alliance (HHRA) funded studies fall into this category.

Part One of the HHRA exposé looked at how funding for the organization and for the Heartland Study were acquired from different interest groups (from mass tort lawyers to the organic food industry lobby). Much of the funding has been channelled into the organization and by extension to their academic “partner” institutions via non-transparent, donor-advised funds and none of the contributions have been publicly declared or responsibly allocated.

[su_panel color=”#3A3A3A” border=”1px solid #3A3A3A” radius=”2” text_align=”left”]This is part two of a series. Read part one here.[/su_panel]
This article examines the scientific approach, the political objectives motivating the researchers and the failures in their methodology. The scientific method requires intellectual rigor together with independence and integrity. The evidence shows the Heartland Study as anything but.

**Activist science**

Science is about discovery. A process of gathering evidence and from that drawing inferences and making conclusions. The scientific method involves continually challenging these inferences to ensure more robust conclusions (Karl Popper’s process of resisting falsification). This method has led to the greatest advancements of humanity, prosperity and well-being.

But there are a group of activists and their special interest funders who have perverted the scientific process. They start with a conclusion and then look for evidence that can justify it. Then, rather than challenging their conclusions, they challenge anyone who questions them (often trying to discredit them). This is called “activist science”.

The Heartland-funded partners and related studies are a clear example of activist science. They start with a conclusion: “that a certain class of herbicides is the cause of pregnancy and infant health issues”. From that they go out to look for evidence that will prove this while designing research parameters without standard control groups to best deliver this conclusion. With the analytical technologies today, chromatographs and spectrometers can be calibrated to detect minute traces of herbicides in pregnant women’s urine and then isolate the cohort to link diseases to these samples.

The conclusions are premeditated because those funding the Heartland research (tort law firms and the organic food industry lobby) are working together with the scientists to deliver conclusions that they will benefit from (either through a large number of lawsuits against herbicide manufacturers or from increased sales of organic food products due to public fear and outrage).

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Correlation is not causation

The false cause fallacy confuses correlation with causation. If every time I go for a run, it rains (correlation), I cannot reasonably conclude that my running practices are the source of the rain (causation). But many activist scientists are relying completely on this fallacy to make their inferences. Cancers are increasing and exposures to novel chemicals are increasing, but there needs to be more research before any causal relationship can be proven. People are living longer, lifestyles are becoming more sedate, cancer detection practices are increasing – there are so many factors that could cause the increase in cancers. Any attempts to correlate this phenomenon on a single factor should be flagged as suspicious scientific practices.

The Heartland Study is relying on this fallacy to legitimize its conclusions. However minute, herbicides are showing up in urine, anywhere and at any time. There could be a thousand other chemicals detected in a pregnant woman’s urine that could cause an issue but these are activist scientists so they are starting with the conclusion that herbicides cause an unspecified number of them. They then manufacture the evidence to justify this preset conclusion. There are no control groups.

To correlate the presence of trace elements of a herbicide with some neonatal issue is not only meaningless, it is irresponsible. But that is what the scientists behind the Heartland Study have been paid to do.

This is an issue of scientific integrity.

Hazard or risk-based research

Activists favor hazard-based research findings while regulators, as risk managers, apply the risk-based approach. There is a big difference here.

A hazard is the possibility that some substance, product, process or event can cause a harm while a risk is the likelihood of this harm given the exposure to the hazard. A car on the street, for example, can be hazardous to humans, but if you are inside your house it is not a risk as you are not exposed to it. Risk managers need to find a way to lower exposures (building crosswalks, stoplights or speed bumps) in order to keep the benefits of vehicles.

If we take the hazard-based approach, then the conclusions would be more precautionary: until we can be certain roads can be made safe, we need to ban cars from the streets or lock people in their homes. This approach is not scientifically sophisticated and is, frankly, quite ridiculous.

The hazard-based approach is used by the International Agency for Research on Cancer (IARC), drawing conclusions with no considerations of exposure levels. This helps to explain how their monographs are continuously attributing carcinogenicity to substances (like glyphosate or aspartame) while no other
government agencies have agreed with them.

The Heartland Study takes the hazard-based approach. Given the sophisticated lab testing equipment, the researchers will more than likely identify herbicide traces in the urine of most pregnant women. But the researchers will not reveal how low the levels of exposure are or that the toxicity of the herbicides are so low as to have no impact or play any significant factor in the health of the fetus. The Heartland Study is collecting funding from special interest groups to only show traces of herbicides in urine and then make the correlation with some diseases. They are not concerned with drawing significant conclusions about exposure levels or how they might compare to other more hazardous exposures.

Perhaps the best case of how ridiculous the hazard-based approach is when the Heartland-connected researcher and pesticide class action litigation consultant, Robin Mesnage, admitted that the exposure levels from glyphosate were too low to pose any risk to consumers. Why then has this researcher authored dozens of papers claiming health issues from glyphosate (going back to Séralini’s retracted rat feeding publication)?

It is all a game to this class of activist scientist.

**Ramazzini research**

As noted in Part 1 of this exposé, the key scientific actors behind the Heartland Study are Collegium Ramazzini fellows. This “club” of mostly American occupational health scientists share a certain set of goals and values. Their careers have often been closely involved in regulatory processes but with a critical view on the utility of the risk management measures in place in government bodies. They have seen too much “industry science” in the process and most of these scientists have become hardened anti-corporate lobbyists.

The Ramazzini culture shows little tolerance for debate or disagreement. Ramazzini fellows are controlling certain journals, controlling issues and who can or cannot contribute while ensuring that the peer review process for their own is anything but critical (see example below). They use their networks in governments and the academe to influence WHO agencies like IARC to publish monographs they can then use in their US tort litigation strategies (see examples from benzene to glyphosate to talc to aspartame).

Ramazzini research is characterized by a small group of networked activist scientists advancing their political interests with the use of poor methodology, the use of the hazard-based approach and conclusions based on confusing correlation with causation. Their publications have been disruptive and noisy but ultimately universally rejected by national scientific agencies. U.S. Congressional hearings have called for an end to taxpayer funding for Ramazzini projects. But that peer rejection is not a concern for this group as their findings are well-amplified by NGOs, the media, interest groups and US tort lawyers.

They have their own “peers”.

**Ramazzini peer review**
In the world of legitimate science journal publishing, a rigorous peer review regimen is exercised.

- Reviewers are credible scientists with demonstrated knowledge and experience in the field of interest.
- Editors and reviewers alike must sign off that they do not have any personal or professional connections with the authors of a submitted manuscript.
- Editors must then confirm that none of the reviewers selected have a conflict of interest with the authors or the research involved.
- Editors also perform quality control, meaning that they must assess what the reviewer writes as to its fairness and rigor. A simple endorsement with no supporting evidence will not work.
- A reviewer who supplies poor quality feedback must be removed and an additional reviewer must be found who will display the meticulousness required to get the job done.

High quality journals maintain an infrastructure that confirms that these rules are employed, so that there can be no ‘rubber stamping’ of approval of any manuscript for publication without rigorous peer review. The review process can be long and arduous, with multiple renditions of the manuscript being sent back and forth between the journal editor, reviewers and authors.

Do these rules apply to the Ramazzini club? Here is an example of a Ramazzini peer review for an article on glyphosate written by Chris Portier based on research funded by tort law firms suing Monsanto.
Ramazzini research quality: Peer review by Ramazzini director, Fiorella Belpoggi, of a paper by Ramazzini fellow Chris Portier (funded by US tort law firms) published in the Ramazzini-managed Environmental Health journal.

Ramazzini research practices should be distinguished from proper, professional scientific research methodology.

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