Monopoly is a Bad Institutional Structure

Roger Koppl
Institute for Forensic Science Administration
www.fdu.edu/ifsa
Fairleigh Dickinson University
Key Features of Institutional Structure

- Fragmentation
  - Addressed in recommendations 1, 2, 6, 7, 11, & 12
- Lack of oversight
  - Addressed in recommendations 1, 6, 7, & 9, 11
- Dependence
  - Addressed in recommendation 4
- Monopoly
  - Unaddressed
Twofold Monopoly

• Monopoly in forensic examinations
  – Evidence is sent to one lab. The probability that another lab will examine the same evidence is low

• Monopoly in interpretation
  – Test and interpretation are given by one lab
Monopoly in Forensic Examinations

• Problem
  – Errors may go undetected
  – Fraud may go undetected

• Solution
  – Random, independent, multiple examinations

• Why the solution works
  – If each examiner has a 5% chance of error, the chance a majority of three will err < 1% (= 0.75%)
  – A chain is only as strong as its weakest link; a net may be stronger than any of its knots.
Monopoly in Interpretation

• Problem
  – False interpretations may go unchallenged
  – Alternative hypotheses may go unexamined

• Solution
  – Defense right to forensic-science expertise

• Why the solution works
  – Experts on each side tend to look at it from that side, catching errors the other side misses
  – Letting one bias be a check against another
The two solutions are complementary

• To institute redundant examinations we need to separate test and interpretation
• Case managers, forensic advisors to police investigators, and forensic advisors to defense attorneys will have all case information and apply an integrative, problem-solving intelligence to the cases they work on.
• Examiners will be shielded from domain-irrelevant information
Eliminating Monopoly is Cost Saving for the Criminal Justice System

• Errors are expensive
• Forensic examinations are cheap
• Only a fraction of evidence would be subject to redundant testing
• Reorganization is required, not lots of new capital
• Forensic science is a bargain for the criminal justice system, and we need more of it
Research Science

• Research science is all about replication and rival interpretations

• Structural redundancy
  – The results of any one lab may be challenged by any other

• Rival interpretations
  – It takes a theory to beat a theory
Research Science and Forensic Science

• Random, independent, multiple, forensic examinations creates structural redundancy
• A defense right to forensic-science expertise creates rival interpretations
• Together these two anti-monopoly measures will make the organization of forensic science more perfectly resemble the organization of research science
Concluding Remarks

• Forensic science today is monopolistic
• Monopoly is not science
• Science is not a monolithic univocal truth machine
• Science is all about replication and rival interpretations
• Random, independent, multiple examinations plus defense experts will make forensic science resemble research science