Diagn Interv Radiol 2026; DOI: 10.4274/dir.2026.262809

EDITORIAL

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When the radiologist remains: Reverse alignment and the final biological component

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Harrison's paper on "reverse alignment" prompted this follow-up.[1] In my earlier editorial, I called the gradual adaptation of radiological practice to machine-compatible forms "mechanistic drift." I described the "final biological component" as a possible endpoint: a radiologist still reads and signs reports, yet the work around that person increasingly follows the demands of measurement, standardization, and computational systems.[2] Harrison examines a closely related danger across human practices more broadly. His account gives the original warning a wider conceptual frame, although it does not show that this change has occurred in radiology. Nguyen[3] and Velotto[4] then help clarify how the danger might arise and why formal human oversight may not be enough.

Harrison and the wider frame

The familiar alignment question asks how artificial intelligence (AI) can be made responsive to human values and goals. Harrison asks what happens in the other direction: people and institutions may adapt their practices and simplify their values to fit what computational systems can readily represent and optimize.[1] Such adaptation need not be imposed by a machine. It can emerge through the incentives, records, routines, and definitions of success that people build around it.

That is why Harrison's argument resonates with the earlier editorial. Radiology's emphasis on turnaround time, standardized reports, productivity measures, and auditable decisions did not begin with AI.[2] Harrison's examples often involve commercial platforms.[1] In radiology, throughput, reimbursement, quality assurance, and medicolegal pressures also shape the work. AI can intensify these pressures by giving machine-readable findings a direct path into triage, reporting, and evaluation, while contextual judgment may be harder to carry through the same systems. Harrison supplies a general account of the direction of this adaptation; mechanistic drift names its possible expression in radiology. The radiologist may retain responsibility while the range of judgment the workflow welcomes grows narrower.

How practice can shift

Harrison uses Nguyen's account of value capture to explain one route of reverse alignment.[1] A rich value is given a simpler representation, often a number, and the representation gradually takes the place of the value in practical decisions.[3] Turnaround time, report completeness, discrepancy rates, and AI triage scores are useful measures. Trouble arises if a department begins to treat what these measures capture as the full meaning of good radiological work. Contextual interpretation, consultation, appropriate hesitation, and justified departure from a pathway may matter greatly while remaining harder to count.

Imagine an AI-prioritized worklist paired with a turnaround-time dashboard. A radiologist spends additional time comparing an apparently routine examination with prior images and contacting the referring clinician about a subtle change. That care may register as delay, while the priority score gives the case little prominence. Both tools can be useful and correctly implemented. Their combined effect depends on whether the department recognizes the extra work as good judgment or as a deviation from the preferred path. Before and after AI deployment, a department could sample departures from worklist priorities, review their

Epub: 29.09.2026

Publication date: 02.11.2026

DOI: 10.4274/dir.2026.262809

You may cite this article as: Ertürk ŞM. When the radiologist remains: reverse alignment and the final biological component. *Diagn Interv Radiol*. 2026;32(6):732-733.

clinical justification, and track the rationale, time and evaluation costs, and whether reasons informed quality review. If justified departures become harder to record or carry greater penalties, that would be a warning sign, not proof of reverse alignment.

Velotto describes the next step: an AI output can acquire practical authority when it becomes the ordinary starting point for action, even though the system is neither a moral agent nor the formal decision-maker.[4] A worklist priority, suggested finding, or draft report can become a default that requires effort to question. The radiologist remains answerable, but the surrounding workflow influences where attention starts and when disagreement needs justification. Nguyen explains how a proxy can displace a clinical value; Velotto explains how a system's output can become authoritative in daily work. Together they give Harrison's broader concern a practical route into radiology.[1,3,4]

AI can change radiological decisions through both its accuracy and its place in the workflow. In a study of radiologists, assistance had uneven effects, and inaccurate predictions worsened performance.[5] In a veterinary radiology experiment, presenting AI advice before or after an initial judgment changed how participants used it.[6] These findings concern specific decisions. Mechanistic drift concerns what happens when such arrangements become routine and set the terms of good work.

The verdict for radiology

The question, then, is who sets those terms. I have described radiology as an epistemic system: the clinical practice through which imaging becomes actionable knowledge.[7] A radiologist can still sign every report while worklists, draft findings, and performance measures increasingly define what merits attention and which departures require justification. The practical test is whether radiologists can depart from an AI recommendation for a clinical reason, and whether the department uses those reasons to improve the workflow. An override that carries substantial time or evaluation costs offers little effective discretion. Daye and colleagues describe structures for implementing and monitoring clinical AI.[8] Those structures should also examine what worklists and dashboards reward, which outputs become defaults, and how justified departures are handled.

The final biological component is the endpoint to avoid. A radiologist remains more than a signatory only when clinical judgment can change both the decision at hand and the rules that govern the next one.

AI assistance acknowledgement

ChatGPT (OpenAI) and Claude (Anthropic) were used for critical revision, condensation, language refinement, and formatting. The author independently determined the argument, clinical interpretation, and sources; reviewed and verified all AI-assisted material and references; and accepts full responsibility. No AI system is listed as an author.

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