

United States Court of Appeals
For the First Circuit

No. 87-1405

ANNE ANDERSON, ET AL.,
Plaintiffs, Appellants,

v.

CRYOVAC, INC., ET AL.,
Defendants, Appellees.

No. 88-1070

ANNE ANDERSON, ET AL.,
Plaintiffs, Appellants,

v.

BEATRICE FOODS CO.,
Defendant, Appellee.

APPEALS FROM THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MASSACHUSETTS

[Hon. Walter Jay Skinner, U.S. District Judge]

Before

Bownes, Torruella and Selya,

Circuit Judges.

Charles R. Nesson with whom Jan Richard Schlichtmann and Schlichtmann, Conway, Crowley & Hugo were on briefs for appellants.

Lee P. Breckenridge, Chief, Environmental Protection Division, Department of the Attorney General, on brief for the Commonwealth of Massachusetts, Amicus Curiae.

Jerome P. Facher with whom Neil Jacobs, Donald R. Frederico and Hale and Dorr were on briefs for appellees.

DECEMBER 7, 1988

SELYA, Circuit Judge. Although we disagree with appellants' characterization of the matter before us as a watershed in the law of toxic torts,¹ we find these consolidated appeals to raise perplexing questions - some of novel impression - concerning the scope and operation of certain of the Civil Rules. An exposition of the questions squarely presented, and of our answers to them, follows.

I. THE UNDERLYING LITIGATION

We eschew an exigetic presentation of the litigation's history, secure in the knowledge that the reader with a thirst for further detail may appropriately consult two published table-setter opinions: Anderson v. Cryovac, Inc., 96 F.R.D. 431 (D. Mass. 1983) (Anderson I) and Anderson v. W.R. Grace & Co., 628 F. Supp. 1219 (D. Mass. 1986) (Anderson II). Rather, we address the facts only insofar as they pertain directly to the issues which confront us.

In 1964, the Commonwealth of Massachusetts and the city of Woburn approved plans to site two municipal water wells, designated "G" and "H," in the Aberjona River Valley. The wells were installed. In 1979, public health officials discovered that the wells were contaminated by toxic solvents. These solvents included trichloroethylene, tetrachloroethylene, 1,2

¹Our review of the 78-day trial record reveals that most of the substantive issues thought originally to be implicated were rendered moot by the jury verdict, by the trial judge's findings of fact, by procedural default, or by some combination of the three. Despite the interesting nature of certain of the legal problems, and their undeniable importance in the abstract, we lack any commission to reach them purely for their own sake.

transdichloroethylene, and trichloroethane. For ease in reference, we shall call them, collectively, the "complaint chemicals." After much investigation, officials of the federal Environmental Protection Agency (EPA) zeroed in on several potential sources of contamination: a manufacturing plant owned by W.R. Grace & Company (Grace), situated northeast of the wells; premises controlled by Unifirst Company, located north of the wells; and a 15-acre parcel of vacant wetland lying west and southwest of the wells. This parcel is a cynosure of the case.

The 15 acres were bordered by the Aberjona River on the east, a railroad embankment on the west, and a facility operated by a trucking company on the north. South of the parcel were a trio of businesses: Aberjona Auto Parts, Murphy Waste Oil, and Whitney Barrel Co. To the southwest, across a set of railroad tracks, lay a tannery which had been operated by the John J. Riley Company (Rileyco). In 1951, Rileyco - then owned and operated by the Riley family - purchased the 15 acres from the city and installed a production well on the site. In December 1978, the tannery became a division of defendant-appellee Beatrice Foods Company (Beatrice). Under the terms of the acquisition agreement, Beatrice obtained the business and real estate and assumed Rileyco's environmental liabilities. John J. Riley, Jr. (Riley) stayed on as the division's chief operating officer. In January of 1983, Beatrice resold the main tannery property. Riley resumed his proprietary operation of the tanning business under the Rileyco name. Simultaneously, the 15-acre wetland was transferred to an

entity bearing the elegant name "Wildwood Conservation Corporation" (Wildwood). Like the "new" Rileyco, Wildwood was controlled by Riley.

Plaintiffs (appellants before us) all lived near wells G and H during and prior to 1979. In 1982, they sued Grace, Beatrice, and others in a Massachusetts state court, alleging that complaint chemicals in the water supply had caused them to contract a variety of ailments, leukemia included. Their action was based upon common law tort theories of negligence, nuisance, and strict liability. Because diversity jurisdiction existed, Grace and Beatrice were able to remove the case to federal district court. After several years, trial approached. The district court — confronted with a behemoth of a case — opted to try the matter in three stages. In the first phase, the jury would determine whether defendants were responsible for polluting the wells. The second and third phases, if needed, would be devoted to causation and damages, respectively. A 78-day first-phase trial ensued. Fifty-three days along, at the end of plaintiffs' case in chief, defendants moved for directed verdicts. In a written memorandum and order, the district judge ruled, *inter alia*:

(1) As to any negligence claim against Beatrice, the jury could only consider conduct occurring after August 27, 1968 (the date when Rileyco, Beatrice's predecessor in interest, first had arguable notice that wastes on the 15 acres could affect the municipal water supply). Anderson v. W.R. Grace & Co., Civ. No. 82-1672-S, slip op. at 2-3 (D. Mass. June 9, 1986) (Anderson III).

(2) The jury could not consider failure to warn as evidence of Beatrice's negligence, because plaintiffs had not shown the existence of a special relationship that would support the imposition of such a duty. Id. at 3.

(3) The jury could not consider the strict liability claim against Beatrice, because there was no evidence of purposeful contamination. Id. at 3-4.

These rulings, coupled with other rulings vis-a-vis Grace (which we need not discuss), hampered plaintiffs to some extent, but did not extinguish their claims. The defendants' case went forward. When the evidence was closed, the court and the parties spent the best part of three days conferring over proposed jury instructions and related matters. The jury ultimately received the case on eight special interrogatories, four of which concerned Beatrice's liability. The first read as follows:

1. Have the plaintiffs established by a preponderance of the evidence that any of the following chemicals were disposed of at the Beatrice site after August 27, 1968 and substantially contributed to the contamination of Wells G and H by these chemicals prior to May 22, 1979?

- (a) Trichloroethylene Yes___ No___
- (b) Tetrachloroethylene Yes___ No___
- (c) 1,2 Transdichloroethylene Yes___ No___
- (d) 1,1,1 Trichloroethane Yes___ No___

The jury answered in the negative as to each chemical and, in accordance with the court's instructions, went no further as to

Beatrice.² Appellee sought immediate entry of judgment, Fed. R. Civ. P. 54(b), but plaintiffs objected. They argued that yet another question should be propounded to the jury. The district judge made certain findings under Fed. R. Civ. P. 49(a),³ rebuffed plaintiffs' overture, and entered the requested judgment. Anderson v. Beatrice Foods Co., No. 82-1672-S, memorandum and order (D. Mass. Sept. 17, 1986) (Anderson IV). Plaintiffs prosecuted an appeal (No. 87-1405).

Soon thereafter, a new cloud darkened the horizon: plaintiffs essayed a further appeal from the district court's

²The jury found the codefendant, Grace, liable for contaminating the wells with trichloroethylene and tetrachloroethylene. That aspect of the first-phase verdict is not before us, Grace having settled.

³The rule states in relevant part:

The court may require a jury to return only a special verdict in the form of a special written finding upon each issue of fact. In that event the court may submit to the jury written questions susceptible of categorical or other brief answer.... The court shall give to the jury such explanation and instruction concerning the matter thus submitted as may be necessary to enable the jury to make its findings upon each issue. If in so doing the court omits any issue of fact raised by the pleadings or by the evidence, each party waives the right to a trial by jury of the issue so omitted unless before the jury retires the party demands its submission to the jury. As to an issue omitted without such demand the court may make a finding; or, if it fails to do so, it shall be deemed to have made a finding in accord with the judgment on the special verdict.

Fed. R. Civ. P. 49(a).

denial of a Rule 60(b) filing (No. 88-1070). The proceedings have been consolidated. We address them seriatim.

II. THE APPEAL FROM THE VERDICT

On their first appeal, plaintiffs argue that they deserve a new trial because the district court improperly foreclosed jury consideration of various legal theorems. We find it unnecessary to reach all of plaintiffs' substantive points, however, because the jury's answers to the special interrogatory, combined with the factual findings supportably made by the district judge under Fed. R. Civ. P. 49(a), fully disposed of plaintiffs' claims against Beatrice. Error as to peripheral matters - and we do not suggest that any occurred - was therefore harmless.

We approach this facet of our inquiry by looking to Fed. R. Civ. P. 49(a), see supra note 3, and to the standard of review applicable to the district court's findings thereunder. We then examine the findings and assess their legal adequacy and effect.

A. Special Verdicts: A Perspective.

At common law, special verdicts could not support a judgment-unless the jury made findings of fact on every material issue in the case. E.g., Graham v. Bayne, 59 U.S. (18 How.) 60, 63 (1855). Waiver was not presumed: omission from the interrogatories of a fact necessary to support the judgment - even if the fact had been conceded - constituted grounds for reversal. See Hodges v. Easton, 106 U.S. (16 Otto) 408, 412 (1883); see also 9 C. Wright & A. Miller, Federal Practice and Procedure § 2507 (1971). These barriers marked a thinly-veiled distrust of jury

interrogatories and deprived special verdicts of many of their natural advantages. Consequently, end-of-trial interrogatories were seldom seen.

The adoption of the Civil Rules put an end to this desuetude. Rule 49 recognized the value of the special verdict, judiciously employed. At the rule's core lay the policy of honoring special verdicts rendered upon agreed questions. In contrast to former practice, Rule 49 "put[] the burden of securing a jury verdict on all of the issues squarely on the parties." Id. at 505. Efficacious use of the new modality demanded, of course, that the nisi prius court be permitted to make interstitial findings of fact. To this end, Rule 49(a) ensures that, if the submitted questions omit any material issue of fact, the district court may itself make a finding (or, if it fails to do so, shall be deemed to have made a finding) consistent with the judgment entered pursuant to the special verdict. See Graphic Products Distributors, Inc. v. ITEK Corp., 717 F.2d 1560, 1569 (11th Cir. 1983); Guidry v. Kem Manufacturing Co., 598 F.2d 402, 406 (5th Cir. 1979), cert. denied, 445 U.S. 929 (1980). The net result is that the rule invests the trial judge with extensive powers to resolve issues which should have been - but were not - covered by the interrogatories. See, e.g., Goeken v. Kay, 751 F.2d 469, 474 (1st Cir. 1985) (in contract case, Rule 49(a) allowed district court to determine nature of contract for purpose of statute of frauds, where issue was omitted from jury interrogatories); Brenham v. Southern Pacific Company, 328 F. Supp. 119, 123 (W.D. La. 1971)

(where negligence submitted to jury, but not proximate cause, district court could find causation, using Rule 49(a)), aff'd, 409 F.2d 1095 (5th Cir.), cert. denied, 409 U.S. 1061 (1972); Diffenderfer v. Heublein, Inc., 285 F. Supp. 9, 11 (D. Minn. 1968) (district court could make findings on omitted issues in contract action, including waiver, duress, ratification, and applicability of statute of frauds), aff'd, 412 F.2d 184 (8th Cir. 1969). By the time this litigation loomed on the horizon, the wisdom of the ancient maxim "oportet quod certa res deducatur in iudicium" had gained widespread appreciation; jury interrogatories had become a frequently-used tool, much valued in the bargain; and the power of federal district judges to make supplementary findings of fact on omitted issues in Rule 49(a) cases was accepted as a necessary adjunct of the process.

B. Standard of Review.

The type of oversight which pertains to a trial judge's Rule 49(a) findings has not been stated definitively in this circuit. See Goeken v. Kay, 751 F.2d at 472; cf. Payton v. Abbott Labs, 780 F.2d 147, 154 (1st Cir. 1985) (district court's finding under Rule 49(a) reversed as "clearly erroneous" without discussion of standard). This appeal, we believe, requires us to select an approach.

The problem has two aspects. In the first place, questions such as whether a particular fact was omitted, or if omitted, was material to the submitted issue, are legal in nature and call for plenary review. Cf. United States v. Rodriguez, No.

87-1917, slip op. at 6-7 (1st Cir. Oct. 7, 1988) (adopting plenary standard of appellate review to determination of whether evidence supports request for charge). But once such threshold matters are resolved, a different test is needed. Where, as in this case, a material fact was indeed omitted, the judge must indulge in differential factfinding in an environment dominated by the text of Rule 49. The right to have a jury find the further facts is not snatched from unsuspecting litigants. To the contrary, the rule clearly admonishes parties that jury trial will be waived as to any issues not submitted. Jury access is lost only through a party's failure seasonably to have demanded submission of an omitted issue, that is, when a litigant acquiesces in an omission or neglects to object to the verdict form at a time when error may be easily corrected. See, e.g., Reo Industries, Inc. v. Pangaea Resource Corp., 800 F.2d 498, 500 (5th Cir. 1986); Cote v. Estate of Butler, 518 F.2d 157, 160 (2d Cir. 1975). Consequently, there is every reason to treat the district court's Rule 49 findings of fact in the same manner as findings of fact made after a bench trial, reviewable under the "clearly erroneous" standard of Fed. R. Civ. P. 52(a). We so hold. Accord J.C. Motor Lines, Inc. v. Trailways Bus System, 689 F.2d 599, 602 (5th Cir. 1982). This means, in turn, that:

If the district court's account of the evidence is plausible in light of the record viewed in its entirety, the court of appeals may not reverse it even though convinced that had it been sitting as the trier of fact, it would have weighed the evidence differently. Where there are two permissible views of the evidence, the factfinder's choice between them

cannot be clearly erroneous.

Anderson v. City of Bessemer City, 470 U.S. 564, 573-74 (1985).

C. The District Court's Findings.

In this case, the district court made post-verdict findings on an omitted issue. In the court's words:

The plaintiffs argue that [judgment should not enter for Beatrice because] a pertinent issue of fact was omitted from the interrogatories to the jury, namely, whether any of the contaminating chemicals from the Beatrice site reached the wells....

I find that it has not been established by a preponderance of the evidence that any contaminant from the Beatrice site reached the wells. [Plaintiff's evidence] was seriously flawed in this respect by [the expert's] failure to account for loss of water from the river during pumping. I accept [another expert's] testimony that the gradient differentials were too insubstantial to form the basis of an opinion. Under the rules placing the burden of proof on the plaintiffs, I am obliged to find against the plaintiffs on this point.

Anderson IV, slip op. at 7 (emphasis supplied). This finding, if supportable, ends plaintiffs' case against Beatrice. To explain, we turn first to the propriety of the paralipomena. In so doing, we consider whether a material issue was omitted from the jury interrogatories, and, if so, whether appellants acquiesced in the omission. Because we find such an oversight occurred, we treat with its significance. Next, we scrutinize the underpinnings of the district court's Rule 49(a) findings. Finally, we assess the effect of the findings on the balance of plaintiffs' case.

1. Omission of the Flowage Issue. Groundwater movement was a major topic of the trial. Yet the interrogatories did not ask the jury to make specific factual findings as to the direction of flow. Rather, the first interrogatory – the only one germane to this inquiry – addressed two other points: (1) whether there had been disposal of complaint chemicals on the 15 acres after 1968; and (2) whether complaint chemicals had travelled from there to wells G and H. See supra at 6. Submission of the latter issue would ordinarily have required the jury to make a determination on groundwater flow. But because of the compound and conjunctive nature of the question, the jury's negative answers – there were four, one for each of the complaint chemicals – were arguably ambiguous. The responses could be read to mean either that there had been no disposal after 1968, or that no chemicals had travelled to the wells. And there was yet a third possibility: the "no" answers could have meant that the jury felt both prongs of the interrogatory remained unproven. In light of this unmistakable potential for amphiboly, the issue of groundwater flow was seemingly "omitted" from the special verdict within the meaning of Rule 49(a).

Appellants tell us that the issue cannot be deemed "omitted" because the district court exceeded its power by resolving a question on which appellants had not waived their right to jury trial, viz., the question of whether contamination was caused by disposal of complaint chemicals on the 15-acre site before August, 1968. Plaintiffs are correct, in part. The issue

of pre-1968 pollution had been removed from the jury's consideration by the directed verdict, see supra at 5-6, and was preserved for appeal by proper objection in that context. Inasmuch as the omission of pre-1968 pollution from the interrogatory stemmed from that ruling, no waiver can be charged to plaintiffs' account on that score. Our inquiry, then, must proceed along a narrow track: if plaintiffs acquiesced in the omission of the flowage issue from the interrogatory, the court below was entitled to find the facts anent groundwater dynamics, cf. Goeken v. Kay, 751 F.2d at 474, but not to resolve the issue of pre-1968 pollution.

2. Acquiescence. That there was acquiescence is beyond peradventure. The phrasing of the interrogatory was debated extensively at the 3-day charge conference. The court offered a draft interrogatory which, like the one finally adopted, wrapped the issues of disposal and travel into a unitary package. Beatrice's counsel opposed this formulation, arguing that it was "drafted in a way ... that creates more confusion" for the jury. Trial Transcript (T) 75:24. He suggested breaking out post-1968 disposal as a separate question, id. at 25-26, and pointed out that the proposed interrogatory was "compound." Id. at 27. Plaintiffs, though aware of the question's obvious importance, objected to appellee's suggested revisions, told the judge that the question was "fine the way it is phrased," T. 75:26, and encouraged the court to adopt it in precisely the form submitted to the jury. This, we think, was not merely passive acquiescence (though that

would be enough); appellants' actions amounted to active advocacy of the faulty phraseology. To drive the final nail, we note that when the judge, following the charge, asked for objections at sidebar, plaintiffs' counsel registered no opposition to the interrogatory.

It is well settled that a litigant who accedes to the form of a special interrogatory will not be heard to complain after the fact. See J.C. Motor Lines, Inc., 689 F.2d at 603; Frankel v. Burke's Excavating, Inc., 397 F.2d 167, 170 (3d Cir. 1968); Wyoming Construction Co. v. Western Casualty and Surety Co., 275 F.2d 97, 104 (10th Cir.), cert. denied, 362 U.S. 976 (1960); see also 5A J. Moore & J. Lucas, Moore's Federal Practice ¶ 49.03[2] (2d ed. 1988) at 49-17. If a slip has been made, the parties detrimentally affected must act expeditiously to cure it, not lie in wait and ask for another trial when matters turn out not to their liking. See Nimrod v. Sylvester, 369 F.2d 870, 873 (1st Cir. 1966) (plaintiff who sat by when court neglected to answer jury request for supplementary instruction could not complain on appeal; lack of awareness was "of [counsel's] own making"). In this instance, we think it clear that plaintiffs waived any objection as to the interrogatory's form. Accord Central Progressive Bank v. Fireman's Fund Insurance Co., 658 F.2d 377, 381-82 (5th Cir. 1981) (by failing to protest before jury discharged, party waived objection to interrogatory that, in retrospect, submitted question of law due to conjunctive phrasing). Especially where, as here, plaintiffs bear a lion's share of the responsibility for the infelicitous

phrasing, they ought not to be allowed to base an appeal on the ambiguities and omissions that were the natural consequence of their strategy. As we have stated in an analogous setting, to hold otherwise "would place a premium on agreeable acquiescence to perceivable error as a weapon of appellate advocacy." Merchant v. Ruhle, 740 F.2d 86, 92 (1st Cir. 1984).

3. Pre-1968 Pollution. We do not believe that preservation of the claimed error referable to pre-1968 contamination saved the plaintiffs' bacon. The district court's finding on the omitted issue concerned the nature and direction of groundwater flow, a matter altogether separate and distinct from whether waste disposal took place on the 15-acre site in or before 1968. Groundwater flow, unlike the occurrence of pre-1968 disposal, was not directed out of the case by the judge's earlier ruling. The reverse is true; the issue was fully tried. Testimony was taken from no fewer than three experts. The absence of a definite jury finding as to groundwater flow was due solely to compound phrasing of the interrogatory, and bore no relationship to the directed verdict. Inasmuch as plaintiffs accepted and endorsed the interrogatory as submitted, they cannot now complain that they were caught in its toils.

Because the point is significant, we digress for a moment to explicate in greater detail why a directed verdict on waste disposal did not preclude a Rule 49(a) finding on groundwater flow. The key is that the relevant hydrogeological characteristics were constant from the pre-1968 period to the post-1968 period; thus,

the critical hydrogeological factors would have remained the same whether or not dumping was allowed on the 15 acres during the early years. Indeed, plaintiffs' hydrology expert, Dr. Pinder, so testified. E.g., T. 42:114. Inevitably, a finding on post-1968 groundwater flow would have to be accorded probative force in the earlier time frame. If, as the district court found, it was impossible to determine whether any "contaminant from the Beatrice site reached the wells," then befoulment of the 15 acres, whether before or after 1968, made not the slightest difference. Plaintiffs' complaint, after all, was not that the land had been defiled, but that the defilement had poisoned the wells, thereby inflicting harm. Given this set of circumstances, it is unnecessary to decide whether the evidence of pre-1968 disposal was sufficient to warrant jury submission. Compare Frankel, 397 F.2d at 169 (no need to review evidentiary ruling because evidence did not relate to issue placed before the jury by answered interrogatory; jury's negative answer thereto was dispositive of case, rendering evidentiary question academic).

Not easily daunted, appellants asseverate that, if this be so, the finding on groundwater flow was all the more improper, because it effectively mooted plaintiffs' appeal of the directed verdict on pre-1968 disposal.⁴ This contention, despite its superficial appeal, is a mere heuristic. Preservation of the right

⁴Appellants' further assertion that the district judge made a Rule 49(a) finding on groundwater flow solely to insulate his other rulings from appeal derives entirely from speculation - and mean-spirited speculation at that. The attack deserves no analysis.

to appeal an issue, or the right to a jury trial on it, imports no guarantee that the issue will prove determinative or even relevant. The set-aside issue remains subject to the logical force of other findings by the judge and jury. Those findings may well obviate the need to consider the issue; yet, if they are neither erroneous nor improperly influenced by the set-aside, there is no paradigmatic flaw in according them dispositive effect. Take, for example, a ruling directing a verdict in favor of a putative tortfeasor on an element of damages (say, emotional distress). If the jury finds for the plaintiff and awards other damages (e.g., lost wages, medical expenses), plaintiff can appeal the ruling which blocked recovery for psychic harm. But if the jury finds for the defendant on liability, few would dispute that claimant's right to have the emotional distress ruling reviewed has been short-circuited. When all is said and done, a federal appellate court ought not to scratch an intellectual itch, no matter how tantalizing the problem, unless something turns on it.

We note, too, that the district court's Rule 49(a) finding on groundwater dynamics was entirely consistent with the jury verdict. At trial, the parties assumed that a negative answer to the first interrogatory would dispose of the case against Beatrice. The jury was so instructed, and was told that it would have to reach such an answer if it accepted the testimony of defendants' hydrogeology experts. Appellants did not object. By answering the four-part interrogatory with an unbroken skein of "noes," the jury exonerated appellee. Thereafter, the judge

performed his Rule 49(a) role by making an explicit determination concerning groundwater flow - a finding which was omitted from, but likely implicit in, the verdict. This is exactly the sort of function which the rule was designed to serve. See, e.g., Guidry v. Kem Manufacturing Co., 598 F.2d at 406 (rule sidesteps hazard of "verdict remain[ing] incomplete and indecisive" because jury did not "decide every element of recovery or defense"); cf. Gallick v. Baltimore & Ohio Railroad Co., 372 U.S. 108, 119 (1963) (discussing duty of court to harmonize jury's answers to special interrogatories, if possible).

The caselaw relied upon in appellants' scholarly brief does not in any sense require a contrary result. We see no need to examine those authorities at great length. Appellants' leading case is In re Randall, 712 F.2d 1275 (8th Cir. 1983). There, the district court directed a verdict for defendant on a negligence count. After reversal on appeal, 677 F.2d 1226 (8th Cir. 1982), the judge invoked Rule 49(a) and made a finding in defendant's favor on the issue of proximate cause. The Eighth Circuit again reversed, believing it "erroneous to say that the parties had waived their right to a jury trial on the issue of proximate cause under the negligence count. The negligence count was withdrawn from the jury by the trial judge." 712 F.2d at 1277. We agree. Having agreed, however, we come full circle: the Randall rule would apply here if the trial court had made a Rule 49(a) determination on the same issue which had been directed out of the case, that is, the issue of pre-1968 pollution. Be that as it may,

the actual finding below was of a different breed, made on the discrete issue of groundwater dynamics. Randall is, therefore, inapposite.

Our own case of Payton v. Abbott Labs, supra, is cut from much the same cloth. There, we stated that Rule 49(a) "gives the district court the authority to make a finding on the omitted question of fact; it does not give it the right to substitute its judgment for that of the jury on [a] question...." 780 F.2d at 154. That is so. But here, faithful to the Payton admonition, the district court did not displace the jury; it merely filled a gap left open by the verdict. Palmiero v. Spada Distributing Co., 217 F.2d 561 (9th Cir. 1954), another of plaintiffs' stable of cases, is distressingly far afield. Palmiero held that Rule 49(a) findings were not valid where the attorneys failed to object because they were "led astray and led to believe that the interrogatories submitted to the jury would cover all the substantial issues of fact." Id. at 565. Unlike the instant case - where the judge was frank and forthcoming and where plaintiffs had seen and endorsed the special verdict form - the judge in Palmiero made certain representations as to the intended language and scope of the interrogatories, but then "did not carry out what counsel were justified in believing was meant." Id. Nothing resembling that unhappy scenario is reflected in this record.

4. Weight of the Evidence.⁵ As discussed supra, it is readily evident that the district judge was within the pale in invoking Rule 49(a) and making a specific finding on the omitted issue of groundwater flow. Notwithstanding, it remains for us to consider whether, viewing the record as a whole, the finding was clearly erroneous. We limn the pertinent testimony.

Dr. Guswa, Grace's hydrogeology expert, testified that several factors made it impossible to draw a firm conclusion as to whether wells G and H drew water from the 15-acre wetland. Groundwater movement in the area was determined in part by the pumping of two wells used by the Rileyco operation (one on the 15 acres, one on the nearby tannery property). Pumping of the tannery well, and of wells G and H, undeniably created barriers to groundwater flow, but the location of these barriers could not be determined with any degree of certainty. To complicate matters further, no pumping records existed for the tannery wells. Furthermore, the topography itself presented an obstacle to authoritative resolution of the question. The wetland was essentially flat, with a gradient of approximately 1/1000th of a foot. Due to shortcomings in available techniques, water level measurements on the site varied significantly. This was of considerable moment: for an estimate of groundwater flow direction to be meaningful, the precision of the measurements would have to

⁵The term has, perhaps, a special significance in this case. The trial record and the appendices, in the aggregate, weigh in the vicinity of 150 pounds.

surpass the natural gradient. Given the tiny gradient present here, uncertainties in the metage of water levels likely concealed the true direction of groundwater flow. In other words, from a theoretical viewpoint, seemingly small discrepancies in water level mensuration could reverse the model's result for groundwater direction vis-a-vis the wetland; and from a practical viewpoint, as Dr. Guswa opined, the error in measurement would exceed the gradient on the 15 acres.

For these reasons, plaintiffs' conclusions as to groundwater flow on the 15-acre wetland were, in Dr. Guswa's view, inherently unreliable. Taking into account the limitations on physical, scientific, and historical data, the expert affirmed that it was a matter of "garbage in, garbage out". T. 69:26; see also id. at 31. He also testified that half the water pumped by wells G and H was drawn from the Aberjona River, making it a primary source of the complaint chemicals which contaminated the wells. This opinion made considerable sense when paired with United States Geological Service tests showing that the flow of the Aberjona decreased markedly when the wells were pumping. To be sure, plaintiffs' expert (Dr. Pinder) maintained that the bottom of the river was relatively impermeable. He speculated that it would take a decade or more after well G began to pump before any water from the Aberjona was drawn to, and pumped from, the well. Especially in light of the pump-test evidence, the district court was justified in preferring Dr. Guswa's testimony to that of Dr. Pinder. Such choices, after all, comprise precisely the sort of

differential factfinding that the Civil Rules contemplate.⁶

We need ride this horse no further. Having carefully reviewed the voluminous record, we can state with assurance that the Guswa testimony, taken as a whole and in appropriate context, was neither inherently improbable nor overbalanced by the convictive force of any conflicting evidence. The district court, we think, was entitled to credit it. As we have consistently held, once expert testimony on a point is properly admitted, it is normally the prerogative of the factfinder "to determine the weight and value to be accorded to [it]." Allied Int'l, Inc. v. Int'l Longshoremen's Ass'n, 814 F.2d 32, 40 (1st Cir.), cert. denied, 108 S. Ct. 79 (1987). Such a determination having been made, we have no brief to interfere: "Where the conclusions of the [trier] depend on its election among conflicting facts or its choice of which competing inferences to draw from undisputed basic facts,

⁶Appellants repeatedly allude to testimony in which Dr. Guswa is supposed to have declared that the 15 acres were a probable water source for wells G and H. See T. 69:43-44; 70:105-06. A close reading of the record, however, convinces us that Dr. Guswa's remarks, taken in context, cannot carry the cargo which appellants seek to ship. The witness did say that areas "northeast and west" of the wells were a "probable source," but never referred specifically to the 15 acres within that reference. He ultimately concluded that 50% of the water for wells G and H was drawn from the Aberjona River. He also concluded that 20-25% came from locations east of the wells. T. 71:56-58. The source of the remaining 25-30% of the water would be the aquifer coming from the north. T. 71:81. While the wells would pull some water from the marsh area on the west side of the river, no water would come from the drylands west of the railroad tracks. T. 71:82. When asked by the court whether water from the 15 acres would have reached wells G and H, Dr. Guswa said it was impossible to tell. T. 71:83. The judge was entitled to accept, and act upon, this explanation, and to find that plaintiffs did not carry the burden of proof.

appellate courts should defer to such fact-intensive findings, absent clear error." Irons v. FBI, 811 F.2d 681, 684 (1st Cir. 1987); see also Keyes v. Secretary of the Navy, 853 F.2d 1016, 1027 (1st Cir. 1988) (where there are "various permissible views of the proof ... it [is] the district judge's prerogative, indeed, his duty, to choose among them").

D. Effect of the Findings.

Having determined that the trial court's findings under Rule 49(a) were properly made and supported, we must now assess their effect upon the balance of plaintiffs' case.

To prevail in tort, plaintiffs had to establish that (1) Beatrice contaminated or allowed others to contaminate the 15-acre parcel, (2) with complaint chemicals, (3) which travelled to Wells G and H, and (4) thereupon caused plaintiffs' injuries. The post-verdict findings snap the vital third link of this causal chain. If the uncertain nature and direction of groundwater flow makes it impossible to prove that complaint chemicals travelled from the wetland to the wells, then plaintiffs' illnesses cannot be tied to an act or omission of Beatrice. See Dedham Water Co. v. Cumberland Farms, Inc., 689 F. Supp. 1223, 1224-27 (D. Mass. 1988) (plaintiffs were required to prove by preponderance of evidence that contamination in wells had originated at defendant's facility), notice of appeal filed (1st Cir. Sept. 1, 1988). If we credit the lower court's determination that the complaint chemicals discovered in the wells had not been shown to have emigrated from the 15 acres, plaintiffs' tort claims are sunk.

We note at the outset that the judge's factual findings render entirely moot appellants' contention that Beatrice had a duty to warn the public about hazards on its land and to remedy such hazards. The import of the court's findings could not be clearer: if it could not be shown that the 15-acre site was a source of complaint chemicals in the municipal drinking water, a fortiori, there existed no cognizable hazard that could be the subject of abatement. In other words, warning plaintiffs about dangers inherent on the site would not have prevented the harm, since it was never established that chemicals travelled from the site to the wells. See, e.g., Restatement (Second) of Torts § 366 (1965) ("One who takes possession of land upon which there is an ... artificial condition unreasonably dangerous to persons or property outside of the land is subject to liability for physical harm caused to them by the condition....") (emphasis supplied); Dedham Water Co. v. Cumberland Farms, Inc., 689 F. Supp. at 1226-27 & n.7 (common law theories in water pollution case require proof of underground transmission as causal nexus between defendant's conduct and plaintiff's injury). Compare Carrier v. Riddell, Inc., 721 F.2d 867, 868 (1st Cir. 1983). Moreover, because plaintiffs failed to prove the vital third link - a connection between defendant's conduct and spoliation of the water - we have no occasion to decide whether the district court was correct in holding that Beatrice had no duty to curtail its actions or to warn plaintiffs of them.

For much the same reasons, we have no occasion to pass

upon plaintiffs' claim that the doctrine of strict liability should have been applied in the case. To be sure, the highest court of Massachusetts adopted the theory of strict liability in Clark-Aiken Co. v. Cromwell-Wright Co., 367 Mass. 70, 323 N.E.2d 876 (1975). Nonetheless, the court cautioned that "if the plaintiff's damage does not directly result from the risk created, or is not a 'natural consequence' thereof, recovery will be denied." 323 N.E.2d at 887 n.21. That admonition bars this door: since appellants were unable to prove that chemicals migrated from the 15 acres to wells G and H, it cannot be said that contamination of the water supply was a "natural consequence" of defendant's conduct.⁷

Because the trial court's findings on groundwater flow were both plausible and adequately rooted in the record, see supra Part II(C), they were dispositive of the case on liability. Accordingly, plaintiffs' initial appeal, No. 87-1405, must be overruled.

III. THE UNDISCLOSED EVIDENCE AND THE ENSUING APPEAL

We now reach the second of the plaintiffs' two appeals, No. 88-1070. During the pendency of the original appeal, certain

⁷We express no opinion on the applicability of either strict liability or failure to warn, as a theoretical matter, to the facts of this action. Similarly, we consider only the causes of action properly pleaded and preserved by plaintiffs at trial and for appeal. That being so, we take no view of the possible utility of other legal theories, e.g., nuisance, to plaintiffs' cause. On the liability aspect of this appeal, we hold only that the district court's factfinding was proper and binding under Fed. R. Civ. P. 49(a) and that, in consequence, plaintiffs are left without a factual foundation for tort claims of any stripe.

previously undisclosed evidence surfaced. Plaintiffs learned serendipitously that Riley had commissioned Yankee Environmental Engineering and Research Services, Inc. (Yankee) to make a hydrogeologic investigation of the tannery property in 1983. Yankee was to determine (1) the direction of groundwater flow at the tannery; (2) whether groundwater contamination was present there; and (3) whether the tannery contributed to contamination found at Rileyco's two production wells. The resulting report (Report),⁸ based on field research conducted during mid-1983, was never produced in pretrial discovery.

Spurred by their newfound knowledge, plaintiffs moved to set aside the judgment. The district court heard argument on three separate days and denied the motion. Anderson v. Beatrice Foods Co., No. 82-1672-S, slip op. (D. Mass. Jan. 22, 1988) (Anderson V). The court made four salient findings: (1) the Report was relevant and within the ambit of plaintiffs' pretrial discovery request; (2) defense counsel had defaulted in their obligation to furnish the Report during discovery; (3) the nondisclosure resulted from "a lapse of judgment" rather than fraud or deliberate misrepresentation, id. at 20; and (4) plaintiffs had not been prevented

⁸In point of fact, there were two reports. Neither was produced. In addition to the original Report, subsequent investigation revealed a 1985 reevaluation of Yankee's data by Margaret Hanley, previously Yankee's project manager, who had moved to a firm called GEI. The later document adds little for present purposes; overall, it is more favorable to Beatrice than the Report. For the sake of simplicity, we limit our discussion to the Report alone, although the district court on remand may consider the nondisclosure and probable effect of both documents. See text infra Part III(C).

from fully and fairly presenting their case.

A. Rule 60(b)(3).

We start with basics. Plaintiffs' motion to upset the judgment was brought under Fed. R. Civ. P. 60(b) and was therefore addressed to the district court's sound discretion. When Rule 60(b) is in play, we ordinarily defer to the trial judge's more intimate knowledge of the case. For us to act, there must be an abuse of discretion. United States v. Ayer, 857 F.2d 881, 886 (1st Cir. 1988); Rivera v. M/T Fossarina, 840 F.2d 152, 156 (1st Cir. 1988); Pagan v. American Airlines, Inc., 534 F.2d 990, 993 (1st Cir. 1976). Under this standard, we reverse only if it plainly appears that the court below committed a meaningful error in judgment. See, e.g., In re San Juan Dupont Plaza Hotel Fire Litigation, No. 88-1436, slip op. at 28-29 (1st Cir. Sept. 29, 1988) (delineating standard).

In relevant part, Rule 60 states:

On motion and upon such terms as are just, the court may relieve a party ... from a final judgment, order, or proceeding for the following reasons: ... (3) fraud (whether heretofore denominated intrinsic or extrinsic), misrepresentation, or other misconduct of an adverse party....

Fed. R. Civ. P. 60(b)(3).⁹ Failure to disclose or produce materials requested in discovery can constitute "misconduct" within the purview of this subsection. See Rozier v. Ford Motor Co., 573

⁹In this instance, the district court made findings under both Rule 60(b)(2) and Rule 60(b)(3). Nevertheless, plaintiffs' appeal focuses exclusively on Rule 60(b)(3), so we consider any claim for relief under Rule 60(b)(2) to have been waived.

F.2d 1332, 1339 (5th Cir. 1978). "Misconduct" does not demand proof of nefarious intent or purpose as a prerequisite to redress. For the term to have meaning in the Rule 60(b)(3) context, it must differ from both "fraud" and "misrepresentation." Definition of this difference requires us to take an expansive view of "misconduct." The term can cover even accidental omissions — otherwise it would be pleonastic, because "fraud" and "misrepresentation" would likely subsume it. Cf. United States v. One Douglas A-26B Aircraft, 662 F.2d 1372, 1374-75 n.6 (11th Cir. 1981) (to avoid redundancy, "misrepresentation" in Rule 60(b)(3) must encompass more than false statements made with intent to deceive). We think such a construction not overly harsh; it takes scant imagination to conjure up discovery responses which, though made in good faith, are so ineptly researched or lackadaisical that they deny the opposing party a fair trial. Accidents — at least avoidable ones — should not be immune from the reach of the rule. Thus, we find ourselves in agreement with the Fifth Circuit that, depending upon the circumstances, relief on the ground of misconduct may be justified "whether there was evil, innocent or careless, purpose." Bros. Inc. v. W.E. Grace Manufacturing Co., 351 F.2d 208, 211 (5th Cir. 1965), cert. denied, 383 U.S. 936 (1966).

Once we leave the starting gate, the borders of the course blur. The concept of misconduct seems mutable: not every instance of nondisclosure merits the same judicial response. The text of Rule 60(b)(3) gives precious little guidance as to how a

court should ascertain the existence of misconduct, weigh its effect, and ultimately determine when to set aside a verdict. Our sister circuits have set some guideposts along the track: the moving party must demonstrate misconduct - like fraud or misrepresentation - by clear and convincing evidence, and must then show that the misconduct foreclosed full and fair preparation or presentation of its case. See, e.g., In re M/V Peacock, 809 F.2d 1403, 1404-05 (9th Cir. 1987) (Kennedy, J.); Harre v. A.H. Robins Co., 750 F.2d 1501, 1503 (11th Cir. 1985); Stridiron v. Stridiron, 698 F.2d 204, 207 (3d Cir. 1983); Square Construction Co. v. Washington Metropolitan Area Transit Authority, 657 F.2d 68, 71 (4th Cir. 1981); Rozier, 573 F.2d at 1339. Another well-sculpted marker points out that misconduct need not be result-altering in order to merit Rule 60(b)(3) redress. See Wilson v. Thompson, 638 F.2d 801, 804 (5th Cir. 1981); Rozier, 573 F.2d at 1339; Seaboldt v. Pennsylvania Railroad Company, 290 F.2d 296, 299 (3d Cir. 1961); see also Bunch v. United States, 680 F.2d 1271, 1283 (9th Cir. 1982) (when information withheld in discovery, aggrieved party need not establish that outcome would have been different).¹⁰

¹⁰This standard is more lenient than its Rule 60(b)(2) counterpart, and properly so. The "newly discovered evidence" provision of Rule 60(b)(2) is aimed at correcting erroneous judgments stemming from the unobtainability of evidence. Consequently, a party seeking a new trial under Rule 60(b)(2) must show that the missing evidence was "of such a material and controlling nature as [would] probably [have] change[d] the outcome." 7 J. Moore & J. Lucas, Moore's Federal Practice (2d ed. 1985) § 60.23[4] at 60:201-02 (footnote omitted); see also Federal Deposit Insurance Corp. v. La Rambla Shopping Center, 791 F.2d 215, 223-24 (1st Cir. 1986). In contrast, Rule 60(b)(3) focuses not on erroneous judgments as such, but on judgments which were unfairly procured. When wrongful secretion of discovery material makes it

We are in general concert with these authorities, but find it necessary to place our own gloss upon the subject. Verdicts ought not lightly to be disturbed, so it makes very good sense to require complainants to demonstrate convincingly that they have been victimized by an adversary's misconduct. And as with other defects in the course of litigation, the error, to warrant relief, must have been harmful - it must have "affect[ed] the substantial rights" of the movant. Fed. R. Civ. P. 61.¹¹ Moreover, since parties ought not to benefit from their own mis-, mal-, or nonfeasance, uncertainties attending the application of hindsight in this area should redound to the movant's benefit. See generally Minneapolis, St. Paul, & Sault Ste. Marie Ry. Co. v. Moquin, 283 U.S. 520, 521-22 (1931) (litigant who engages in misconduct "will not be permitted the benefit of calculation, which can be little better than speculation, as to the extent of the

inequitable for the withholder to retain the benefit of the verdict, the aggrieved party should not be required to assemble a further showing.

¹¹To be sure, the misconduct may be sanctionable, even though its aftermath is entirely benign. See Marquis Theatre Corp. v. Condado Mini Cinema, 846 F.2d 86, 90 (1st Cir. 1988) (defendant who failed in discovery to produce documents that could have proved or disproved allegations of complaint sanctioned by striking of answer); see generally National Hockey League v. Metropolitan Hockey Club, Inc., 427 U.S. 639, 642-43 (1975) (discussing spectrum of sanctions available for violations of discovery orders). But it does not follow that a new trial is required. The offense can be punished in other, more befitting ways. Cf. United States v. Hastings, 461 U.S. 499, 506 n.5 (1983) (discussing deterrence of prosecutorial misconduct short of dismissal of charges). There is not always a need to ditch the baby with the bath water.

wrong inflicted upon his opponent").

Our chief refinement of the conventional "full and fair preparation and presentation" standard is to delineate more exactly how the value of the suppressed evidence should be weighed. By definition, lack of access to any discoverable material forecloses "full" preparation for trial since the material in question will be missing. Yet concealed evidence may turn out to be cumulative, insignificant, or of marginal relevance. If that be the case, retrial would needlessly squander judicial resources. The solution, we believe, is that before retrial is mandated under Rule 60(b)(3) in consequence of discovery misconduct, the challenged behavior must substantially have interfered with the aggrieved party's ability fully and fairly to prepare for and proceed at trial. Accord Carson v. Polley, 689 F.2d 562, 586 (5th Cir. 1982); cf. Wilson v. Volkswagen of America, Inc., 561 F.2d 494, 504 (4th Cir. 1977) (imposition of default judgment as sanction under Fed. R. Civ. P. 37 should be confined to flagrant cases where failure to produce "materially affect[s] the substantial rights of the adverse party" and is "prejudicial to the presentation of his case"), cert. denied, 434 U.S. 1020 (1978); Telectron, Inc. v. Overhead Door Corp., 116 F.R.D. 107, 132 (S.D. Fla. 1987) (similar).

Under a substantial interference rule as we envision it, a party still need not prove that the concealed material would likely have turned the tide at trial. Substantial impairment may exist, for example, if a party shows that the concealment precluded

inquiry into a plausible theory of liability, denied it access to evidence that could well have been probative on an important issue, or closed off a potentially fruitful avenue of direct or cross examination. See, e.g., Seaboldt v. Pennsylvania Railroad Company, 290 F.2d at 299 (new trial justified where sequestered information "would have made a difference in ... counsel's approach to the testimony of several witnesses"). Substantial interference may also be established by presumption or inference. That possibility, however, brings to the fore the utility of some further embellishments.

Although we agree that the existence of misconduct in the Rule 60(b)(3) sense does not depend upon a demonstration of nefarious intent or purpose, see supra, the actor's intent is not immaterial. Nondisclosure comes in different shapes and sizes: it may be accidental or inadvertent, or considerably more blameworthy (though still short of fraud or outright misrepresentation). In the case of intentional misconduct, as where concealment was knowing and purposeful, it seems fair to presume that the suppressed evidence would have damaged the nondisclosing party. See Nation-Wide Check Corp. v. Forest Hills Distributors, Inc. 692 F.2d 214, 217-19 (1st Cir. 1982) (deliberate nonproduction or destruction of relevant document is "evidence that the party which has prevented production did so out of the well-founded fear that the contents would harm him"); accord Marquis Theatre Corp., 846 F.2d at 89-90; Knightsbridge Marketing v. Promociones y Proyectos, 728 F.2d 572, 575 (1st Cir. 1984); Commercial Ins. Co.

v. Gonzalez, 512 F.2d 1307, 1314 (1st Cir.), cert. denied, 423 U.S. 838 (1975). It seems equally logical that where discovery material is deliberately suppressed, its absence can be presumed to have inhibited the unearthing of further admissible evidence adverse to the withholder, that is, to have substantially interfered with the aggrieved party's trial preparation. See Alexander v. National Farmers Organization, 687 F.2d 1173, 1205-06 (8th Cir. 1982) (where documents deliberately destroyed, court should draw factual inferences adverse to party responsible); Telectron, Inc., 116 F.R.D. at 134 (where destruction motivated by "flagrant bad faith," conduct "warrant[ed] the inference that the destroyed documents would have been harmful to [destroyer]"; resultant unavailability "must therefore be seen as prejudicial to [innocent party's] interest in pursuing the full and fair litigation of its claims"); National Association of Radiation Survivors v. Turnage, 115 F.R.D. 543, 557 (N.D. Cal. 1987) ("Where one party wrongfully denies another the evidence necessary to establish a fact in dispute, the court must draw the strongest allowable inferences in favor of the aggrieved party.").

The presumption, if it arises, should be a rebuttable one. It may be refuted by clear and convincing evidence demonstrating that the withheld material was in fact inconsequential. We are keenly aware of the stringency of this standard, yet we believe it to be an appropriate antidote for deliberate misconduct. A party who is guilty of, say, intentionally shredding documents in order to stymie the opposition, should not easily be

able to excuse the misconduct by claiming that the vanished documents were of minimal import. Without the imposition of a heavy burden such as the "clear and convincing" standard, spoliators would almost certainly benefit from having destroyed the documents, since the opposing party could probably muster little evidence concerning the value of papers it never saw. As between guilty and innocent parties, the difficulties created by the absence of evidence should fall squarely upon the former.

Where the documents have been intentionally withheld but not destroyed, the threshold becomes easier to climb. In such situations, the documents themselves may constitute clear and convincing proof that no prejudice inured. Cf. Eaton Corp. v. Appliance Valves Corp., 790 F.2d 874, 878 (Fed. Cir. 1986) (where destroyed documents had earlier been produced in discovery and plaintiff unable to show that they bore significantly on liability issue, destruction was harmless). Of course, the actual documents are not the only proof of harmlessness which could be clear and convincing. Even when documents have been destroyed, it is possible to present evidence of their general nature and contents, and to decide whether they would likely have been irrelevant or cumulative. See, e.g., Allen Pen Co. v. Springfield Photo Mount, 653 F.2d 17, 24 (1st Cir. 1981).

Conversely, where the nondisclosure was accidental - as opposed to knowing or purposeful - there seems less reason for an adverse presumption. See Coates v. Johnson & Johnson, 756 F.2d 524, 551 (7th Cir. 1985) (where documents were destroyed routinely,

not in bad faith, loss would not support inference that defendant's agents were conscious of weak case); Soria v. Ozinga Bros., Inc., 704 F.2d 990, 996 n.7 (7th Cir. 1983) (where incomplete recording "due to the admittedly informal nature of the company's policy rather than willful destruction of existing records, it would be unfair to create an evidentiary presumption against the company"); Vick v. Texas Employment Comm'n, 514 F.2d 734, 737 (5th Cir. 1975) (mere negligence leading to destruction of records does not sustain inference that party believed its case lacked merit); Ina Aviation Corp. v. United States, 468 F. Supp. 695, 700 (E.D.N.Y.) (no illation that missing evidence unfavorable "where the destruction of evidence is unintentional or where failure to produce evidence is satisfactorily explained"), aff'd, 610 F.2d 806 (2d Cir. 1979); cf. United States v. Mora, 821 F.2d 860, 869 (1st Cir. 1987) (in assessing explanation for delay in presenting tapes for sealing, court should consider whether delay was caused "deliberately or inadvertently").

While parties who are substantially prejudiced by their opponents' misconduct may make a case for a new trial even absent malicious intent, the burden of showing substantial interference in that circumstance should rightfully rest with the movant. Yet the movant, we suggest, need only carry that devoir of persuasion by a preponderance of the evidence, since the considerations which lead us to impose a heightened burden of proof on one who deliberately destroys or withholds discovery materials are lacking when the default is unintentional and the burden of proof is,

therefore, to be hefted by the withholder.

To summarize, in motions for a new trial under the misconduct prong of Rule 60(b)(3), the movant must show the opponent's misconduct by clear and convincing evidence. Next, the moving party must show that the misconduct substantially interfered with its ability fully and fairly to prepare for, and proceed at, trial. This burden may be shouldered either by establishing the material's likely worth as trial evidence or by elucidating its value as a tool for obtaining meaningful discovery. The burden can also be met by presumption or inference, if the movant can successfully demonstrate that the misconduct was knowing or deliberate. Once a presumption of substantial interference arises, it can alone carry the day, unless defeated by a clear and convincing demonstration that the consequences of the misconduct were nugacious. Alternatively, if unaided by a presumption - that is, if the movant is unable to prove that the misconduct was knowing or deliberate - it may still prevail as long as it proves by a preponderance of the evidence that the nondisclosure worked some substantial interference with the full and fair preparation or presentation of the case.

In our view, this methodology strikes an acceptable balance between the need to preserve the finality of judgments and the need to enforce discovery rules against those who would seek unfair advantage by withholding information. It does not handcuff the nisi prius court; rather than requiring mechanistic decisionmaking, the protocol which we have delineated envisions

that the trial judge will make a series of record-rooted judgment calls in exercising his informed discretion under Rule 60(b)(3) - judgment calls of the sort district courts are uniquely equipped to essay. And because weighing the relevant factors remains primarily a task for the district court, we will ordinarily defer to its assessment of the situation, absent error of law or manifest abuse of discretion.

B. The State of the Record.

Although our approach to Rule 60(b)(3) differs somewhat from that employed by the district court, remand is not automatic. See, e.g., United States v. Mora, 821 F.2d at 869-70 (though district court used wrong standard, factual findings were sufficiently explicit to allow court of appeals to discern result). It is important, therefore, to peruse the lower court's findings carefully before charting our future course.

1. Misconduct. Though the circumstances giving rise to belated discovery of the Report need not be discussed, the circumstances surrounding its nondisclosure are of great concern. The district court required plaintiffs to establish Beatrice's misconduct by clear and convincing evidence. Anderson V, slip op. at 10. It correctly imputed counsel's knowledge and behavior to the client, found that Beatrice had suppressed the Report, and characterized this suppression as "a lapse in judgment." Id. at 20. It made no explicit finding as to whether the default was tantamount to Rule 60(b)(3) misconduct. This last omission, however, appears to be of little moment; the record contains clear

and convincing evidence - overwhelming evidence, to call a spade a spade - that appellee engaged in what must be called misconduct under the applicable legal standard.

As early as October 1982, plaintiffs asked Beatrice to "indicate the dates and describe the results of any tests of water quality conducted on the water from the Riley land...." Interrogatory No. 30, Set 1. Beatrice filed its response before the Report was compiled, and therefore did not mention it. Subsequently, Beatrice failed to supplement its reply to reveal the Report's existence.¹² There is no need for us to determine how many angels danced on the head of that particular pin, however, for what transpired thereafter was unarguably in dereliction of appellee's duty. In their second set of interrogatories, plaintiffs asked Beatrice if there had been "any evidence of contamination from the surface of the ground entering the well [on the tannery property]," Interrogatory No. 75; to "[i]ndicate the dates and chemical concentrations found of all additional monitoring efforts that indicated water contamination of the Riley Tannery well," No. 80; and what documents were "in the possession

¹²It can be cogently argued that this neglect flouted the continuing duty imposed with respect to updating interrogatory answers in certain circumstances. See Fed. R. Civ. P. 26(e)(2)(B) ("A party is under a duty seasonably to amend a prior response if the party obtains information upon the basis of which ... (B) the party knows that the response though correct when made is no longer true and the circumstances are such that a failure to amend the response is in substance a knowing concealment."). Because the other, later, less borderline violations are more than enough to establish misconduct, see text infra, we need not pursue the inquiry as to the first set of interrogatories.

of any officer or employee of the Riley Company ... [relating] to the past or present storage treatment and/or disposal of wastes or any related activities at the Riley Tannery...." No. 92. Appellee objected to these interrogatories. Plaintiffs moved to compel answers and Beatrice cross-moved for a protective order, arguing - unsuccessfully - that the case had focused on the 15 acres, and therefore "the operations of the tannery itself have been and remain irrelevant to the litigation." The district court thought otherwise, denying the motion (April 23, 1985) on the ground that plaintiffs' complaint was "without limitation to the 15-acre tract." It ordered appellee to answer the challenged interrogatories fully.

Beatrice complied on May 30, 1985 - more than a year after the Report had been issued. It eschewed any mention of the document, answering "no" to Interrogatory No. 75 and stating in reply to No. 80 that "[t]he only tests performed on the well of which Beatrice is aware were conducted ... on behalf of the EPA." (It had earlier responded to No. 92 that "no such documents exist.") Appellee neither amended nor supplemented these representations at any time. This was an outright breach. See Fed. R. Civ. P. 26(e)(2)(A) ("A party is under a duty seasonably to amend a prior response if the party obtains information upon the basis of which (A) the party knows that the response was incorrect when made"). It was not the only one.

Plaintiffs also filed a Rule 34 production request on December 31, 1984. Among other things, they demanded that Beatrice

cough up:

[s]tudies, reports ... and other documents
relating or referring to any contamination of
water supplies in the City of Woburn....

* * *

[D]ocuments.... referring to the flow of
surface or ground waters in the City of Woburn
and surrounding communities....

* * *

[D]ocuments ... referring to the defendants'
storage or disposal of chemicals at the
property at issue or the John J. Riley Co.

Beatrice replied on February 4, 1985, acknowledging its obligation to produce all non-privileged documents in its possession as to the first two categories, and denying that, insofar as the third request pertained to the 15 acres, it had any responsive documents. It objected to the remainder of the third request. After the objection was overruled, Beatrice represented that it had "produced all responsive documents in its possession...." In a subsequent Rule 34 request, plaintiffs asked for "[a]ll site inspection reports ... relating to the plant and surrounding property owned by the John J. Riley Company." Appellee agreed to "produce those responsive documents within its possession that have not already been produced...." Each and all of these Rule 34 demands, fairly read, necessitated divulgement of the Report. Notwithstanding, Beatrice played possum - just as it had done with regard to answers to interrogatories. Plaintiffs were never alerted to the existence of the Report. Under principles of fairness and the terms of the Civil Rules, they should have been.

Appellee's knowledge of the Report, before trial and in ample time to make disclosure, cannot be gainsaid. Its chief trial counsel admitted during the hearing on plaintiffs' Rule 60(b) motion that he had seen the Report on January 9, 1986, when it was in the possession of Riley's attorney. The district judge found that Beatrice's counsel should have made immediate inquiry of Riley and disclosed the Report to plaintiffs. Under the circumstances, such a finding was amply warranted.¹³

The compelling conclusion that appellee's failure to make discovery comprised misconduct within the ambit of Rule 60(b)(3) stands on a solid tripodal base: (1) plaintiffs exercised due diligence in initiating their discovery requests; (2) Beatrice knew, or was charged with knowledge, of the Report, and had constructive (if not actual) possession of it; and (3) Beatrice did not divulge the Report's existence. Of these points, only the second necessitates further comment. Not only did Beatrice enjoy first-hand knowledge of the Report's existence by January 1986, but as the court below found, Rileyco's records were available to Beatrice and under its control within the meaning of the Civil

¹³Because appellee itself knew of the Report, we need not consider - and take no view of - whether Riley's knowledge was chargeable to appellee. Although misconduct by a nonparty will not ordinarily foment a new trial under Rule 60(b)(3), see Metlyn Realty Co. v. Esmark, Inc., 763 F.2d 826, 832 (7th Cir. 1985), the circumstances of this case are not so clearcut; Riley and Rileyco might well be viewed as agents of, or persons in privity with, Beatrice. Moreover, Riley was subjected to some discovery and - like Beatrice - kept the Report a secret. If Beatrice was a knowing party to this coverup, its bona fides could be affected. This aspect of the matter merits aggressive inquiry on remand, see text infra Part III(C).

Rules. See Fed. R. Civ. P. 33, 34. Among other things, the agreement under which Beatrice sold the tannery and the adjoining wetland to the Riley interests provided:

Following the Closing, [Beatrice] shall continue to defend the Woburn pollution litigation.... [Riley] shall cooperate with [Beatrice] in its defense of such litigation and shall make available to [Beatrice] such personnel and records as [Beatrice] may reasonably request in connection with such matter.

This cooperation pact put Riley's information - including the Report - at Beatrice's disposal and, constructively, in its possession. Accordingly, appellee had a duty to make inquiry of Rileyco before answering the interrogatories and responding to the requests for production.

The purpose of discovery is to "make a trial less a game of blindman's buff and more a fair contest with the basic issues and facts disclosed to the fullest practicable extent." United States v. Procter & Gamble, 356 U.S. 677, 682 (1958). Once a proper discovery request has been seasonably propounded, we will not allow a party sentiently to avoid its obligations by filing misleading or evasive responses, or by failing to examine records within its control. Unquestionably, Beatrice's repeated nondisclosure of the Report stemmed from, and constituted, misconduct as that term is used in Rule 60(b)(3).

2. Nature of the Misconduct. We next examine whether appellee's misconduct was knowing, deliberate, or intentional to such a degree as to trigger a presumption of substantial

interference. See supra Part III(A). The district court made the following finding on this point:

I do not draw the inference from these defaults, however, that the defendant deliberately and fraudulently suppressed these reports. These reports are not significantly detrimental to the defendants, and in fact contain many conclusions that are favorable to them. Given the vast amount of information made available to plaintiffs in the course of the trial, it seems inconceivable that experienced and competent counsel would have swallowed the camel and strained at the gnat ... In any case, I do not find that fraud or deliberate misrepresentation has been established by clear and convincing evidence.

Anderson V, slip op. at 19-20 (footnotes omitted). To determine the utility of this finding, we must review what transpired at the Rule 60(b) hearing.

Plaintiffs' presentation occupied the time allotted on the first day. Attorneys for Beatrice and Riley began the second day by offering counterarguments. Plaintiffs then mounted a rebuttal. At the same session, they submitted a written motion asking the district court to make certain inquiries of counsel for Beatrice and Riley, respectively, and reaffirmed the entreaty in their verbal presentation. These requests implicated matters of undeniable relevance, such as counsel's knowledge of the Report and the possibility that further undisclosed information lurked in the shadows. The district court did not rule on the motion. At the third and final session (a week later), plaintiffs brought the matter up again. The court stated that it would hear no further

argument and effectively foreclosed the inquiry.¹⁴

¹⁴The colloquy between the judge and Mr. Nesson, one of plaintiffs' attorneys, went as follows:

MR. NESSON: We have a matter pending before your Honor, which is a motion to inquire, and we stated specific questions which we asked.

THE COURT: I'm not doing that.

MR. NESSON: If you are denying this motion, then before this hearing closes, we ask the right to call [Riley's attorney] to the witness stand and examine her on the issues of fact that relate to this motion.

THE COURT: No. I said to you last week, you had two shots to do whatever you needed to do on this motion. If you wanted to call witnesses, you should have told me then.

MR. NESSON: We did, your Honor.

THE COURT: Then you should have called your witnesses.

MR. NESSON: No. We told you that we thought that calling lawyers to the stand was a bad business. We would rather have you make the inquiry. We were hoping and I was hoping that you would make the inquiry.

THE COURT: No.

MR. NESSON: You have not made the inquiry, and at that point I am saying if you've denied this motion, we want to preserve our rights with respect to that. We now ask you before this hearing closes that we call [Riley's attorney] to the witness stand.

THE COURT: I am not doing anything more on this hearing.

Transcript of Hearings 11/10/87, at 3:48-49. We add that, notwithstanding the court's somewhat oblique statement in reference to what was "said ... last week," the record of the earlier proceedings contains no disposition of the inquiry motion. Instead, the colloquy appears to have meandered onto other topics,

We sympathize with the district court's frustration, and share its skepticism concerning fractious lawyers who insist upon raising new arguments late in the day. Yet in the circumstances of this case, we think the judge erred in rejecting plaintiffs' motion to inquire - an error that was compounded when he proceeded to make findings of fact on the very matters which inquiry could reasonably have been expected to illuminate.

To begin with, plaintiffs exercised due dispatch regarding the matter. Despite the "two shots" reference by the court, see supra note 14, the transcript contains nothing which shows that plaintiffs were put on notice to call opposing counsel at the outset or forgo their testimony. When it first became evident that neither defense counsel's presentation nor the court's queries would directly address the rationale for withholding the Report, plaintiffs' lawyers moved with some celerity. Sensitive to the unseemliness of grilling fellow attorneys, and believing (not unreasonably) that inquiry by the court would be the most decorous way to proceed, they chose to file a written motion to direct the court's attention to the critical issues of what Beatrice knew and when its knowledge was acquired. The procedure which they outlined was a plausible one. The court did not respond, either affirmatively or negatively, notwithstanding an oral reminder. Having filed a timely motion on a relevant subject, plaintiffs were entitled to a ruling. Not having received one,

without any indication as to whether the court would or would not question counsel as requested.

they were justified in continuing to press the request at the third hearing. When the court then stated for the first time that it would not interrogate the lawyers, plaintiffs promptly sought to call them as witnesses. No greater diligence could reasonably be expected.

Nor was this some fribbling matter of marginal relevance. Where there has been an unrevealed failure to make discovery, the offender's knowledge and intent is of decretory significance in a proceeding under Rule 60(b)(3). Questioning might well have produced evidence that Beatrice knowingly and deliberately concealed the Report;¹⁵ if so, a presumption of substantial interference would arise, sufficient to yoke Beatrice with the burden of showing its defalcation to have been harmless. In a case such as this - where the motion to interrogate was seasonably filed; where the questions were of so salient a nature and might well have yielded results highly pertinent to a reasoned decision on the pending motion; and where the attorneys whose testimony was desired were present and available to respond - we think the district court abused its discretion by refusing to launch the inquiry. We must, therefore, return the case to the court below so that the error may be corrected. Compare, e.g., United States v. Bailey, 834 F.2d 218, 226 (1st Cir. 1987), opinion after remand, 846 F.2d 1 (1st Cir. 1988).

3. Value of the Evidence. Because remand is necessary,

¹⁵We do not suggest that there was knowing and deliberate concealment, merely that, absent inquiry, we cannot tell.

we need not dwell on the Report's value or the degree to which its absence disrupted plaintiffs' ability to prepare and present their case. For one thing, such matters are tied closely to the question of intent and the existence vel non of a rebuttable presumption of substantial interference. We write briefly, however, to indicate that, on remand, the district court must consider only whether nondisclosure of the Report impeded plaintiffs from targeting the tannery as a source of contamination and fully and fairly preparing their case in that respect. In other words, Beatrice's misconduct notwithstanding, we see no need to revisit the 15-acre wetland and the district court's Rule 49(a) finding that no pollutants flowed to wells G and H from that site.

Our reasoning is straightforward. Although appellants argue that the Report would have assisted them on the issue of groundwater flow vis-a-vis the wetland, the district court found specifically that access to the Report "would have had no effect on the result" at trial. Anderson V, slip op. at 9. The court held that the Report was inconsequential to ~~these~~ issues resolved by the Rule 49(a) finding, basing its conclusion upon a painstaking analysis of the contents as they related to the issues and evidence at trial. See id. at 5-9. Because that determination appears eminently supportable, it follows that nondisclosure of the Report - whether or not purposeful - could not have worked any substantial interference with preparation or presentation of plaintiffs' case anent the 15 acres.

The second string to appellants' bow is markedly more

resilient. They contend that the Report would have aided their efforts to obtain discovery on another theory of their case: that contaminants reached the groundwater directly from the tannery, and thereafter were drawn under the 15 acres to wells G and H, through the pumping action of these wells. If such a concept was appropriately before the district court, the resultant situation would be materially different from the one addressed by the judge's Rule 49(a) finding. We limit the distinction.

Plaintiffs tried the case against Beatrice on the theory that defendant had negligently allowed the dumping of complaint chemicals on the 15 acres, and that these chemicals percolated into the groundwater and travelled to wells G and H. The court found that the transmission element of this theory had not been proven. That meant that plaintiffs had not sustained their burden of tracing the claimed odyssey of contaminants from the wetland to the wells. Within its own circumference, that finding - which we have sustained on appeal, see supra Part II - is the law of the case, but it cannot be extended beyond its natural contours. The district court heard no evidence on, and made no finding as to, the possibility that complaint chemicals had entered the groundwater at the tannery, rather than from the wetland.

That such a claim was actually before the district court is not much subject to doubt. The notion was properly pleaded by plaintiffs, the tannery site being within the scope of their amended complaint. In an April 1985 order, see supra at 39-40, the court below acknowledged that plaintiffs' claims were pled "without

limitation to the 15-acre tract." Having raised the issue, plaintiffs thereafter sought to pursue it, not hotly and heavily but with some degree of interest and diligence. They attempted to conduct discovery concerning the tannery, requested access to the tannery property for purposes of testing and investigation, and were refused permission to enter.¹⁶ Thus, appellants seem to have been deprived of any fair chance to develop this aspect of their case.

Beatrice urges that, because plaintiffs previously paid comparatively little attention to the tannery during discovery, we are free to conclude that they would have followed the same strategy even if the Report had been timely produced. This exhortation strikes us as idle persiflage. Pretrial discovery follows no set course. An able litigator builds on the information available from time to time, changing direction as new leads emerge and old ones wither. Elementary logic suggests that plaintiffs likely slighted the tannery because they had no evidence, beyond guesswork and surmise, to show that it contributed to the pollution. The Report could have filled this void: Yankee found two of the complaint chemicals present at the tannery site; characterized the data as suggesting that the tannery was "the

¹⁶We are unmoved by the specious argument that Beatrice could not grant access to the tannery property because the tannery had been resold to Riley. The sales agreement provided that "[Beatrice] shall have access to the [tannery] for the purpose of inspecting the same and conducting whatever soil or other tests it may reasonably deem necessary in connection with the Woburn Litigation." That was enough, in our view, to give appellee constructive control for the purposes at hand.

probable source" of 1,2 transdichloroethylene contamination at the production well on the Riley tannery property; and concluded that groundwater under the tannery site flowed from west to east, toward wells G and H. Such information, if known to counsel, might have made the tannery a higher-priority item on appellants' discovery agenda.

We do not venture to say whether the Report was sufficiently valuable on the issue of contamination at the tannery site that a finding of substantial interference should ensue, but we remit the matter so that the appropriateness of such a finding can be considered. In the first instance, it is for the district court, which has earned an intimate knowledge of the case and has mastered its factual intricacies, to assess the relative impact of the Report and where it might plausibly have led.

C. Proceedings on Remand.

We return the case to the court below for further proceedings and findings along the lines described herein. On remand, the court must first conduct an evidentiary hearing and determine whether appellee, acting alone or in concert with the Riley interests (see supra note 13), knowingly or intentionally concealed the Report. On this point, plaintiffs must carry the *devoir* of persuasion. Depending on the outcome of this inquiry, a presumption of substantial interference will or will not arise. See supra Parts III(B)(1), (2). In either event, the court should then proceed to receive an orderly presentation from all parties to decide whether the Report (including the Hanley reevaluation,

see supra note 8) is inconsequential vis-a-vis the plaintiffs' claims insofar as they relate to the tannery property. The burden and margin of proof, and the identity of the party who must carry it, will depend on the existence or nonexistence of the presumption. See supra Part III(A).

In short - presumption or not - the second-stage determination must be whether lack of access to the Report substantially interfered with plaintiffs' efforts to prepare and present a case as to the nexus between the tannery and the pollution of wells G and H. See supra Part III(B)(3). Finally, the district court should formulate recommendations, based on its subsidiary findings, as to whether plaintiffs are in its view entitled to any remedy, and if so, the nature and scope thereof.¹⁷ The court shall also furnish us with a recommendation as to the appropriateness vel non of sanctions anent any unexcused discovery violations.

We shall retain jurisdiction for the time being. Upon

¹⁷If the district court ultimately decides that a new trial is warranted on this issue - and we intimate no suggestion in that regard - the whole case need not necessarily be retried. We recognize that the trial court's Rule 49(a) finding on groundwater flow from the 15 acres, when accorded collateral estoppel effect, might present a formidable barrier to any attempt to link wells G and H with the tannery (which is situated further to the south). Moreover, Beatrice makes a compelling case against tannery involvement, based on the evidence already available. But that may not be the whole story. Opportunity for discovery is the issue where the tannery is concerned, not sufficiency of the evidence. If the court were to find that Beatrice's secretion of the Report improperly foreclosed plaintiffs from conducting tannery discovery, it could reasonably accord them the chance for further discovery limited to that issue - better late than never - in order to see if plaintiffs can uncover enough evidence to go to the jury.

the expeditious completion of the inquiry described above, the district court shall forward its findings and recommendations to this tribunal, with copies to be furnished to the parties. Because of his extensive familiarity with this matter, we direct that the district judge who presided at the trial keep the case on remand, at least for the purpose of making the findings and recommendations necessary to allow us to determine Appeal No. 88-1070. . . .

IV. CONCLUSION

We need go no further. We discern no reversible error in the proceedings before the jury, in the verdict, in the district court's Rule 49(a) special finding, or in the partial grant of Beatrice's motion for an instructed verdict. Appellants' other assignments of error relating to the course of trial (including some which we have not deemed worthy of discussion herein) are meritless. Accordingly, we deny and dismiss Appeal No. 87-1405.

We find, however, that the court below did not give appropriate consideration to appellants' posttrial motion to set aside the judgment pursuant to Rule 60(b)(3). Thus, we remand to the district court for rehearing on that motion, under the standards set forth herein. Upon completion of its reconsideration, the lower court should forthwith file findings and recommendations as we have instructed. See supra Part III(C). In the interim, we shall retain jurisdiction.

Appeal No. 87-1405 is denied and dismissed.

We retain jurisdiction on Appeal No. 88-1070 and remand to the district court with directions that it conduct the further

inquiry envisioned in this opinion and thereafter make findings of fact and recommendations to this court based on the results of the inquiry.

All parties shall bear their own costs.