clinician. Surely, before making their positive recommendation for *all* cameras, some attempt should have been made to enable the results to be assessed by a panel rather than by a single clinician only.

Furthermore, their "liver phantom of average size (17 cm × 17 cm)" (no scintigrams of which were shown) in which "the focal lesion was simulated using various thicknesses of aluminum discs, 2 cm in diameter" is probably not very realistic clinically, unlike that used by the United Kingdom DHSS (*2*). A liver of average shape is difficult to define, as can be seen from the literature (*3, 4*), and a better policy might have been to adapt the DHSS phantom so that three or four of the most commonly occurring normal variants of liver shape had been available.

Baimel and Bronskill also concluded that since 256 of 1973 (13%) Ontario Cancer Institute liver studies had been read as equivocal or suspicious during 1975–76, motion correction could be of *considerable* benefit in that institute. Without a detailed followup analysis on as many of the 1975–76 patients as possible, and a resulting assessment of false-positive, false-negative, and equivocal reports, no such strongly worded statement should be made.

Finally, since the liver is a large organ of variable thickness, I am not fully convinced that the displacement of its periphery is the same as that of the center of activity within the liver. If the motion is more complicated than that assumed by Baimel and Bronskill, motion correction will in turn become more complicated—although, we hope, not to the extent that an increase in false positives will occur! Perhaps, therefore, while we are investigating new mathematical tools we should find it rewarding and informative also to assess in detail our present diagnostic efficiency in liver scintigraphy. For example, are we really seeing a 2-cm tumor when we think we are? Such an exercise, involving good prospective record keeping of patient data, including any subsequent followup for eventual correlation studies, could in itself lead to a reduction in the number of equivocal scintigram reports—even without any liver-motion correction. This suggestion also has the advantage that only a minimum of mathematics is required!

R. F. MOULD
Westminster Hospital
London, United Kingdom

REFERENCES

1. BAIMEL NH, BRONSKILL MJ: Optimization of analog-circuit motion correction for liver scintigraphy. *J Nucl Med* 19: 1059–1066, 1978
2. POTTER DC, MCCREADY VR, MOULD RF, et al: (DHSS Working Party Members): A survey of some radionuclide imaging instruments with an anthropomorphic liver phantom. DHSS publication, STB/3/78, 1978.
3. MCAFEE JG, AUSE RG, WAGNER HN: Diagnostic value of scintillation scanning of the liver. *Arch International Med* 116: 95, 1965
4. MOULD RF: An investigation of the variations in normal liver shape. *Br J Radiol* 45: 586–590, 1972

Reply

Our article (*1*) described a general mathematical model for analog motion-correction circuits. The validity of this model was verified by experimental measurements and a simple detection test that simulated clinical liver scintigrams. The purpose of our article, as clearly stated in the title, was to provide a general technique for optimizing the performance of analog-circuit motion correction.

I draw Dr. Mould's attention to the work of Turner et al. (*2*), which was published before our article. They not only showed liver scintigrams with and without motion correction, but they also analyzed liver scintigrams for 102 patients in which the true state of the liver was established. Their results with five observers were expressed as receiver operating characteristic curves and their conclusion was that "analogue motion correction is an effective, inexpensive method for improving hepatic scintigraphy with a scintillation camera." With this background information available, I do not find at all "premature" our conclusion that analog motion correction be provided in all scintillation cameras used for liver scintigraphy.

Our liver phantom was constructed to duplicate the film-density distribution measured from a liver scintigram of a patient with a normal liver. To that extent our phantom certainly was "clinically realistic." The DHSS phantom may well be a more common (and commercial) variant; its use in our experiments would not change our results or conclusions.

Because a large fraction (13%) of our 1975 and 1976 liver studies were interpreted as suspicious or equivocal, we considered as worthy of comment the indication that motion correction is most likely to clarify the interpretation of suspicious or equivocal. We were merely pointing to a large fraction of our liver scintigraphy studies in which we believed motion correction *could* be of benefit. The adjective "considerable" was apparently too strong for Dr. Mould. Although about 10% of our liver images are still obtained with a rectilinear scanner, we have observed, since implementing analog motion correction, a decrease in the fraction of total liver images interpreted as suspicious or equivocal from 13% to 10.5% (206 out of 1967) in 1977 and to 7.5% (139 out of 1863) in 1978. I consider this benefit worth considering (i.e., "considerable").

Dr. Mould's final paragraph restates the basic assumption of analog motion correction: that only translatory motion of the organ occurs. I, too, am not convinced that the motion of the periphery of the organ is the same as the motion of the center of activity. The fact remains that, within this limitation, properly executed analog motion correction is a simple, effective, and inexpensive technique for improving spatial resolution in liver scintigraphy.

M. J. BRONSKILL
The Princess Margaret Hospital
Toronto, Canada

REFERENCES

1. BAIMEL NH, BRONSKILL MJ: Optimization of analog-circuit motion correction for liver scintigraphy. *J Nucl Med* 19: 1059–1066, 1978
2. TURNER DA, FORDHAM EW, ALI A, et al: Motion corrected hepatic scintigraphy: an objective clinical evaluation. *J Nucl Med* 19: 142–148, 1978

Reticuloendothelial Distribution of a Colloid-Like Material in 6β-[^{131}I]-Iodomethyl-19-Norcholesterol (NP-59)

We have recently observed a previously unreported occurrence involving the apparently reticuloendothelial distribution of a colloid-like impurity in the adrenal imaging agent 6β-[^{131}I]-iodomethyl-19-norcholesterol (NP-59). The radiodiagnostic agent* was obtained as 6β-[^{131}I]-iodomethyl-19-norcholesterol in 1.5% polysorbate (Tween 80) and 6.6% absolute ethanol, in a final specific concentration of 2.33 mCi/ml at the time of calibration. Sterility and limulus lysate pyrogenicity testing, performed in our department, proved negative. A radiochemical purity check with ITLC-silica gel media and normal saline