Service could range from publications, through membership records and accounting, to arrangements for meetings, etc., as each organization might choose to contract. Each sponsoring organization would determine its own goals, needs, policies, and services.

I think such an "institute" might be able to develop a parallel to the *Physics Today* magazine, which our culture sorely needs. The role of radiation in our lives will almost certainly increase rather than decrease. Our chosen fields, as well as the general public, need a magazine widely available in school and public libraries, as well as in waiting rooms, that tells accurately and in simple terms the stories of "RADIATION in LIFE, TODAY." The concept of risk/benefit ratios has to become commonplace and readily understood, in terms of the full spectrum of everyday risks and benefits, including those relating to radiation.

Could these advantages accrue to a group of societies in a less formalized "consortium-for-services?" As the aggregate magnitude of costs, monies, and services grows, the need for safeguards through formalized organization also grows. Personnel recruited for providing services would be more readily secured and retained in a well-structured organization. Some projects—including a common general publication like "RADIATION in LIFE, TODAY"—would be practical only if approached with care by an organization analogous to the "institute" model.

Inflation is causing officers and members of many organizations to re-examine how desired services can best be provided. The merging of selected service functions of several organizations can be as cost-effective for scientific activities as it is for commerce and industry. Such changes need neither alter nor impair the individual organization's effectiveness, goals, or identity. With strong and dynamic leadership, an organization should enhance its capabilities and accomplishments through participation in such a cooperative venture.

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What Do We Want from a Bone-Scanning Agent?

Table 1 presents our initial results from repeated 24-hr whole-body retention studies, using both hydroxyethylidene diphosphonate (HEDP) and methylene diphosphonate (MDP), on four volunteer subjects and one patient with Paget's disease. These values reflect skeletal uptake of tracer (*1*) and show that in the normal subject MDP has the higher uptake, which presumably explains the faster plasma clearance of tracer and higher ratios of bone to soft tissue that have been found with this agent (*2,3*). While we have studied only one patient with Paget's disease, the skeletal uptake in the abnormal situation shows less striking difference between the two agents.

For the imaging of patients with metabolic bone disease—where abnormality on the bone scan is generally assessed by an awareness of diffusely increased tracer uptake throughout the skeleton—HEDP may be the radiopharmaceutical of choice. Furthermore, if there is high uptake of tracer in normal bone, focal skeletal abnormality may be less striking against such a background, and we have indeed shown that tumour-to-bone ratios are higher using HEDP than with MDP (*4*).

Just because one agent produces "pretty pictures" in the normal situation, it does not necessarily follow that such an agent is superior in the detection of abnormality. What matters more than high bone-to-background ratios is a high ratio of abnormal to normal tracer uptake in bone. In clinical practice, both HEDP and MDP are excellent bone-scanning agents, but in the search for metastatic disease, HEDP may prove to be the more sensitive.

TABLE 1. REPEAT WHOLE-BODY RETENTION MEASUREMENTS USING HYDROXYETHYLIDENE DIPHOSPHONATE (HEDP) AND METHYLENE DIPHOSPHONATE (MDP)

Subject	Age	Sex	24-hr WBR HEDP (%)	24-hr WBR MDP (%)
1	33	M	15.46	25.1
2	62	F	14.48	27.48
3	59	F	21.82	36.32
4	62	M	19.18	30.94
5 (Paget's disease)	76	F	72.21	79.63

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Re: Thyroid Carcinoma in an Autonomously Functioning Nodule

The recent case of functioning thyroid cancer reported by Drs. Abdel-Razzak and Christie is interesting (*1*). This patient and the one reported by Hopwood et al. (*2*) would seem to be the only ones with cancer that suppressed function in normal thyroid tissue without aid from functioning metastases. The size of this cancer and the modest suppression of extranodular tissue indicate that the functional activity was of a low order, perhaps making the benign nature of the nodule moderately suspect. With thyropathologists, Robert C. Horn, Jr., M.D., and William Meissner, M.D., we have reviewed the histology of a half dozen published (or to be published) similar cases. The diagnosis of cancer in two instances from the probable thousand nodules of this type removed surgically in the United States makes this test for thyroid cancer of great specificity. Doubts should be resolved by needle biopsy (*3*) rather than by wholesale surgical removal of such nodules.