Our Exciting Future

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How may one explain such trends? To do so is presumably simple. The explanation lies in the principle of pulverization. During the era in question, the nation experienced economic growth. Technological development raised labor productivity. That is, the payment to labor—the value of labor—was pushed up. The result was to encourage still more technological development designed to conserve costly labor. With capital intensification as the goal, those industrial processes were favored that could be highly mechanized—notably the flow processes such as pulp and paper manufacture, at the expense of the batch processes such as making firewood. Furthermore, the output of the technological laggards, such as firewood and lumber, became relatively more and more expensive because of all the labor that went into them, and thus their consumption was discouraged. And still further, consumers were discouraged by unsatisfactory qualities of the unpulverized commodities. For example, fuelwood was awkward and dirty to use in the home, compared to natural gas. Lumber construction required handling several pieces of material for every one piece required by plywood construction.

Those trends in American forestry were our whole social evolution in microcosm. We were fortifying a national culture that had long been proudly cornucopian. We were repledging our allegiance to automation, labor conservation, capital-intensive resource management, unquestioned science, inviolate professions, replace-don’t-repair, and no-deposit-no-return (more recently, dispose-of-properly).

Of course, our national cultural tenets never went totally unchallenged. There were always a few neo-Malthusians lurking about, writing scary books. From time to time, someone who was supposed to be in the know questioned the power of our technology to overcome looming scarcities of basic materials; the 1952 report of the President’s Materials Policy Commission was noteworthy.

But then something happened. Today, rather suddenly by the calendar of cultural evolution, Americans widely suppose that life is changing more fundamentally than ever before—or even that it has changed. To be sure, many believe that today’s change is just a temporary thing, a trick of mineral and land owners who have monopoly power and are using it while they can to feed their greedy purses. And yet people look around, and what do they see? They see a series of increasingly unusual events, commencing somewhere around the end of War II, speedily thereafter. The following are estimated percentages of total roundwood consumption:

<table>
<thead>
<tr>
<th></th>
<th>1900</th>
<th>1950</th>
<th>1975</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pulp and sliced products</td>
<td>2</td>
<td>23</td>
<td>44</td>
</tr>
<tr>
<td>Sawn products</td>
<td>48</td>
<td>51</td>
<td>49</td>
</tr>
<tr>
<td>Round and split products</td>
<td>50</td>
<td>26</td>
<td>7</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
<td>100</td>
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the environment and of the supposed quality of life; concern for pinched supplies of materials, believed by many to be a major cause of monetary inflation and even of unemployment; an especially grave concern for energy supplies, made graver by the 1970s rise in the man-hours of labor required to buy a unit of energy (the first such rise in modern times) and by the 1976-78 wintertime distress. What happened? Are the old attitudes and technology and culture suddenly obsolete? Or have we just been shocked into wondering? In any case, what is implied for the future?

For forestry, what is implied? Every one of the general events of recent years bears on forestry, raises questions about forestry. These are exciting questions.

The Forestry Profession
1. What can a profession do to learn about its public standing and take remedial measures? Do foresters know how people define good professional conduct, and are they amending their teaching and action programs and public image accordingly?
2. Are the forestry schools responding to the wants of the forestry profession in a world where doubts are rampant? Are the schools giving their graduates an education for the new future, not simply a customary course of training? How can they educate their graduates to cope with change? How can flexibility to cope with change be introduced into forestry, with its traditional demand for the long view and the long-term commitment?
3. But are the forestry schools threatening to graduate too many officers and not enough troops? Are we turning out more professionals than will be wanted in a world constrained by resource scarcities—and putting too little emphasis on the education of technicians at subprofessional schools?

Pulverization vs. Aggregation
4. Can we expect capital-intensive pulp and paper manufacture to give ground to labor-intensive sawmilling, thus “repealing” the pulverization law? What new forest products can be devised that are conservative both of their wood raw material and of energy? Is modern-day lumber promising to be such a product?
5. If there is to be a reversal of pulverization and even of the replacement of wood by plastics, and if forests are to provide an energy source, how will wood-using industry be structured in order to achieve economically the high degree of raw-material utilization that will be called for? What will this structure mean for forest resource management?
6. Must we abandon the dream of intensive (i.e., energy-intensive) timber management before it is widely realized and devise new silvicultural, logging, and transportation systems that conserve scarce resources and substitute otherwise unemployed labor?

Materials vs. Amenities
7. In the face of national concern for the scarcity of both materials and environmental amenities, how are satisfactory trade-offs to be found? Similarly, where technological and population growth has saddled society with many a private firm’s costs, how can we find the right degree of social control and the right means for exerting it?
8. In a materials- and energy-intensive era, it was appropriate to heed consumers’ “demand” as one would heed a child’s Christmas list addressed to Santa Claus. The forester’s job was to meet the demand. In a new era, may it not be appropriate for consumers to reciprocate conspicuously by meeting supply? How may consumer tastes and procedures be educated accordingly?
9. Considering the need for technological renovation in forestry and, it may well be, for analogous renovation in farming, what changes in rural-land values are in prospect? How will these bear upon the business-industrial, residential, and amenity uses of land?

Social Sciences in Forestry
10. What is happening to the field traditionally termed the economics of forestry? Clearly, its boundaries change to suit the real questions addressed to practitioners. In places, the boundaries have become less distinguishable than ever from those of adjacent applied social sciences. As the economics profession withdraws from the real into mathematically tidy make-believe, one wonders if the forestry profession may not be well advised to redefine its interests in social science and rename them, too, to fit tomorrow’s real questions.