MAY 1949

Trial Balance Inventory
(T. B. I.)

Completed T. B. I. is a comprehensive picture of the standards of living as advanced to A.D. 1949. The T. B. I. package weighs 12,910 pounds, bulks 1547.78 cubic feet, costs $18,877.63, could be loaded into a twenty-four-foot trailer. Mobility of domicile is possible in spite of the fact that the package contains every facility that man might desire for personal or family home use, recreation or development. Elements' range from highest quality of kitchen, laundry and cleaning mechanics to equipment for comprehensive machine and wood-working shops; still, motion, and talkie cameras and darkroom equipped for same. The package contains all furniture for 6 people (Eames, Knoll, Beautyrest, etc.) much sporting equipment (summer or winter) and a comprehensive selection of musical instruments including a $2500 Steinway concert grand piano.

It is improbable that any single family would want to include everything in this package list since leisure time would not be available to participate in or utilize all of the equipment listed. Interchangeability of function according to preference is a conception inherent in this package. Thirty individuals tested consistently but one-third of the total T. B. I.

Inspection of the T. B. I. shows that man has advanced all of his mechanics to a potential autonomous level with the exception of water supply and refusing. Siamese twin relationship of house to utility lines becomes obvious.

Since the greatest obstacle to rapid dwelling development is the common arterial sanitary system now in use, solution of this problem was next given top priority in our investigation. Primary direction taken has been (a) <u>recirculating</u> purification of water with total divorce from connections to external systems of pipe, (b) <u>conservation</u> in uses of water and (c) <u>capture</u> of water from atmosphere in addition to rain and well. Assuming the solution of these three problems by the

teams of researchers who had undertaken them, others went on with investigations to solve the basic mechanical assembly of autonomous house and others undertook new developments and physical test procedures.

These covered a variety of subjects such as traffic flow studies to develop the most efficient arrangement of facilities in relation to use, natural light control; independent space-sound controls; pneumatic floor components; redesign of elements in compact packages to reduce waste space, weight, etc.; solution of folding, moving and unfolding house components for greatest mobility, etc.

On second phase review of the T. B. I. it became obvious that, inasmuch as all the items were inventoried at retail store figures and had been appropriately packaged for an indefinite succession of handlings and seasonal lags, the resultant succession of price markups represented of necessity fundamental all-over inefficiency of distribution procedure. If the ultimate comprehensive mechanical package to be acquired by the family over a period of years could be purchased en masse in advance, not only could individiual markups be eliminated, but also much costly protective packaging and independent stands, consoles and cabinets, appropriate to separate marketing. The traditional "have not" psychology would be replaced with spontaneous creative conservation.

As a result of these observations, designs and models were developed. Each of the six faces of a 25' x 8' x 8' container (equivalent to the body of a medium transport trailer) locked together by hinges, serve as mounting platforms for all items of the mechanical package. The contents are sorted and adhered to the six panels--the sides, top, bottom, ends--in relation to their use categories. Mounted with geometrical ingenuity, the panels, when hinged together, hold the respective items mounted on them in reciprocal proximity, thus avoiding all loose shipping conditions. Hinged "open" the panels provide a floor space of 928 sq. ft. completely

furnished ready for use. This arrangement also makes logical the movement of the separate panels along the producers mass production line and the affixing thereto of the mass purchased component mechanics, and the hook-up of their respective and appropriate wire and plumbing harnesses and manifolds as in auto production.

The overall economic significance is that: (a) it assures the original component producers of mass outlet, and annual stability and (b) that the comprehensive package may be mass marketed on a long-term chattel mortgage, thus enormously increasing manufacturing outlet and simplifying distribution to the consumer.

The mechanical package could thus be made available to the consumer at a cost per pound within the price range afforded by equivalent complex assemblies as now provided by automobile manufacturing techniques. The automobile package is sold to the consumer within the price range of 25¢ to 50¢ per pound. The top figure of this range, 50¢ per pound, is to be compared with a net cost of $2.00 per pound at present retail for the respective items of the T. B. I. as now distributed and marked up. This is to say that the same items with which we furnish our dwellings might be made available en masse at 50¢ per pound instead of piecemeal at $2.00 per pound. The autonomous house project demonstrates that its super-mechanical standard of living may now be made available in mass production at $4500 per family or $750 per capita, instead of as at present for $18,000 per family or $3000 per capita.

Because super T. B. I. package just had "too - much" unusable luxury, there was a methodical review by each student of the T. B. I. and the optimum fraction chosen by any one student on behalf of his family was only 1/3 of the super T. B. I.; that is to say, the most advanced standard of living if mass assembled and panel-packaged as described above could be made available at $1500 per family of six or at $250.00 per capita. This could be ammortized at present official permitted time banking of 3 years, i.e., with insurance and finance charges--at $50.00 per family per month, all payed up in 3 years.