by the historian Theodore Zeldin

pointed out the danger of over-rich sauces, but insisted nevertheless that everybody should know how to prepare them and that no dinner was complete without them; the serving of appetising food, its artistic preparation and display were held up as one of the most important duties of every housewife.

Stephen Mennell, a sociologist, has pointed out that English cookery columns for the lower-middle classes "emphasized the need to eat fat and heavy food for body-building", and French women's magazines began calorie-counting only in the 1950s. "Abundance" or affluence is clearly part of the story, but not the whole story.

Schwartz's treatment of the role of science and medicine in dietary faddism is disappointingly sketchy. As he demonstrates, scientific findings have repeatedly provided the raw material for new fads; and many of the more egregious regimens have been and continue to be concocted by medical doctors. One would like to know how it has been that technical advances have found their way into the popular imagination. Who has done the bending to fit them to the desire for a panacea? Why have "health food" stores come to stock capsules of soy phosphatides, chelated copper and L-phenylalanine alongside their "organic" lettuce? Unfortunately, Schwartz finishes by lumping physiologists together with evangelical

Christian dieters (*More of Jesus and Less of Me*) and "behaviourists" (*How to Be a Winner at the Weight Loss Game*), all of them having "drawn obesity away from the perturbing social and economic issues of consumption". The neurophysiologists "hoped" to do this "by drawing appetite deep inside the brain". This is a novel species of scientific motivation.

Never Satisfied does not conclude with a straightforward account of current views on body weight and health, or on the amenability of weight to dietary manipulation. Perhaps Schwartz feels that today's answers are still provisional and will be out of fashion tomorrow. Instead, the last chapter opens with an all-out diatribe against slimming, complete with such remarks as "few militarists, murderers, or rapists are fat". This turns out to be a calculated exercise in imagining a future manifesto of the Fat Power movement, and the last pages note some current signs of discontent with the culture of thinness. Neither the author nor his reader finishes fully satisfied. Still, Schwartz is to be thanked for laying on quite a spread as he vividly reminds us that "Our bodies and our foods are as much social constructs as they are proteins, carbohydrates, fats". □

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Fearful symmetry

David R. Rosseinsky

Symmetry Through the Eyes of a Chemist. By István Hargittai and Magdolna Hargittai. VCH:1986. Pp. 458. DM156, \$90.30.

THE COMMON problem in early winter, of finding two left- or right-handed gloves, would be instantly resolved by dropping the arbitrariness in mitt design of differentiating interiors from exteriors. The inside-out remedy here is perhaps the only everyday inversion not drawn on by the authors in their lead-in to symmetry in science.

While Blake's Tiger! Tiger! is also missing, his God as Geometer provides a typical illustration, and Escher's obsessive collocations are yet again called upon. But many of the everyday illustrations are photographs of carefully observed, basically commonplace scenes picked out for some symmetric facet: the snowflake gets 10 pages. These examples provide a beguilingly attractive introduction, especially to the minority of readers deficient in three-dimensional perception (personal research shows us even to be perhaps a silent majority). Such a utilitarian assessment undervalues the aesthetic pleasure

to be derived from the arrays of examples of symmetry in art, sculpture and nature. Progress towards the general introduction of symmetry labels and symmetry operations follows naturally, together with their application to chemical systems.

Conical (*conical?*) periodic tables have however already featured in the introduction, and 1,2-dibromo-1,2-dichloroethane slips in early in Chapter 2. Then acetanilide and *p*-chloroacetanilide, with contrasting molecular arrangements in their centrosymmetric and noncentrosymmetric rhombic crystals, and chiral systems in general exemplified by 4-(bromomethyl)-6-(mercaptomethyl)[2.2]metacyclopentane together with larger combined structures ease the reader towards quite elaborate chemical systems. Point groups are exemplified both by patterns and by molecules of greater or lesser complexity. The invaluable framework embodied in the valence shell electron pair repulsion model is discussed in some detail.

Group theory employing matrices is included, complete with a brief introduction to matrix manipulation, irreducible representations and character tables. Symmetry rules in vibrations precede electronic structure and symmetry in wave mechanics, and consideration of reaction mechanisms; symmetry rules for the reac-

Period return — drawing, by the crystallographer Khudu Mamedov, of the decoration on a mausoleum in Badra, Azerbaizhan, in which the basic motif is the word Allah.

tion coordinate are summarized and the requirements of orbital symmetry, following the views of Fukui and of Woodward and Hoffmann, are exemplified in numbers of simple examples. Space-group symmetries in infinite systems are addressed largely by reference to non-chemical examples, and crystals and crystal groups follow, to give all the applications of symmetry in chemistry conceivable (to me).

This pleasant evocation of symmetry applications is accomplished with continued reference to up-to-date chemistry. Thus I find a recent and not entirely welcome reference to the probable non-linearity of gaseous transition metal dihalides: gone the simple coulomb view of bonding here, together with some cherished but now invalidated preconceptions.

The only non-chemical importations which in my view do not succeed are the passages from fellow-Hungarian writers. In these, verbal dualities and ambiguities of interpretation are explored, but out of context and in what seem contrived circumstances.

The margins take one-third of each page and attractively accommodate smaller diagrams, or the legends to larger textual ones, or otherwise simply present an aspect of spaciousness. Such extravagant counter-austerity (not of course new) will undoubtedly spread.

Almost education by stealth, certainly education by aesthetic appeal, the whole exercise is epitomized in the quoted words of Coulson: "Symmetry is important, but it is not everything.... It is when symmetry interprets facts that it serves its purpose because it links our study of chemistry with another world, [that] of the human spirit". □

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