

SOCIAL
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ECONOMICS

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FOREWORD

Professor Senesh's paper, Economics, was written as part of a curriculum project supported by a developmental contract of the United States Office of Education, made with Purdue University for the Social Science Education Consortium. The project was directed by Professor Senesh.

The purpose of the project was to outline the major concepts, structure and methods of several of the social sciences in a way that will be useful to persons concerned with either teaching or constructing new curriculum approaches and materials in which one or more social science disciplines has a prominent place. Papers similar to this one on economics have been written for anthropology, geography, sociology, and political science.

Professor senesh's immediate concern was to construct a broad curriculum outline for Grades K-6. However, the materials on the disciplines should be useful to teachers and curriculum workers at all grade levels.

Irving Morrisett

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In the last few years, a significant educational revolution has taken place in the elementary classrooms of America. Academicians have joined forces with elementary school teachers to develop a concept-oriented elementary school curriculum. There are at least three reasons such a revolution has taken hold primarily in the elementary grades.

- 1 - Academicians experimenting in the elementary grades have discovered that children's experiences are potentially meaningful and can be related to important theories.
- 2 - They have found that children ask many questions which can provide openings for significant learning.
- 3 - Elementary school teachers are committed to good teaching and are eager to work with new ideas.

Whether the child develops an understanding of the world around him and whether he will be able to participate creatively in our society depends on the quality of his education. Elementary school teachers today are aware of this great responsibility, and they are receptive to new ideas. This is why the elementary classroom offers a good climate for experimentation.

The teaching of modern social science in the elementary grades is long overdue. Science and technology are advancing much faster than is our ability to solve the social problems they cause. For this reason, the primary objective of social science instruction should be to encourage and nourish the problem-solving ability of young people. Making them problem-solvers will strengthen our pragmatic heritage, help them to identify themselves with national goals, and perhaps encourage more of them to choose social science as a professional career.

Problem-solvers need to use analytical tools and to think analytically, but thinking analytically requires practice and exercise over a long period of time. This is why economic education and education in the other social sciences should be introduced early in the schools.

The experiments conducted by Purdue University in the elementary grades have proved that the fundamental ideas of the various social science disciplines can be meaningfully related to first graders' experiences. If the fundamental ideas of the various disciplines are introduced in the first grade, two questions may arise: "How should the curriculum differ from grade to grade?" and "How should one teach all the significant ideas of each social science discipline in every grade?"

The answer to the first question is that the identical fundamental idea relationships should be taught and retaught in every grade level, but with increasing depth and complexity as the child's experiences become broader and deeper. The answer to the second question is more difficult. Curriculum builders will have to construct units for each grade in such a way that sociological concepts will take precedence in some units, while in others political concepts or anthropological concepts will play the bigger role. In the units where economics dominates, the economists can give the children practice in using analytical tools in such a way as to help them understand the social processes. Building such a curriculum is a long and painstaking job which will take more than one lifetime. Real craftsmanship will be necessary to compose units with an "analytical mix."

Basic Economic Ideas

Eight fundamental ideas may be used as a basis for building an economics curriculum:

1 - The conflict between unlimited wants and limited resources confronts every individual and nation. Although this conflict may vary in degree at different times and in different parts of the world, it is always present.

2 - Men try to lessen the gap between unlimited wants and limited resources. They have found that by dividing the labor they can produce faster and better. If each person does one particular job and specializes in this task, he gains in skill and increases his productivity.

There are three ways in which labor can be divided:

- a, **Occupationally:** There are specialists like engineers, barbers, salesmen, teachers,

dentists, farmers, and store owners, etc.
 Altogether, there are some 35,000 occupations.

- b. Geographically: Climate, soil conditions, or the skills of inhabitants enable some regions to produce certain products better than other regions. For example, Florida and California produce oranges; Brooklyn builds ships; Pittsburgh and Gary are great producers of steel.
- c. Technologically: As machines have assumed a greater role in production, they have been designed for certain specialized tasks. Different types of cracking towers are used to refine oil. A great variety of plows are produced for different types of soils and crops. Computing machines are built to solve specific types of problems.

3 - Because there is a division of labor, people do not produce all that they need for themselves; and so people become interdependent.

4 - This interdependence makes trading necessary. To facilitate trade, men have developed monetary systems and transportation methods.

5 - Because resources are too limited to permit fulfillment of all wants, all societies develop allocating mechanisms that determine:

- a. The kinds of good to be produced: whether, for example, watches, textiles, toothbrushes, clothing, bulldozers, sewing machines, or cabbages will be produced.
- b. The quantity of goods to be produced.
- c. The methods of production to be used: that is, the proportions of land, labor, and machines or tools to be used.
- d. The level of production and employment to be attained.

6 - In our economic system, the market is the major allocating mechanism. Through the market, producers and consumers find each other. It is in the producers' interest to try to sell their goods at the highest price; consumers, on the other hand, try to buy goods at the lowest price. The interaction of the two results in the market price. It is the rising or falling of the prices of the goods they produce as well as prices of land, materials, labor, and tools that make factories and businesses decide what goods and how great a quantity of them to produce, and what proportions of materials, labor, and tools or machines they will use to produce these goods.

7 - When our society decides that certain things which the market mechanism does not provide are necessary or desirable, it may modify the decisions of the market. For example, if decisions on education were left to the market, only those who could afford a private education would go to school. When our society decided on free education for all, it modified a market decision in order to promote the general welfare.

To obtain a result deemed necessary or desirable, our society has many times in its history modified market decisions through public policy, in accordance with the circumstances and prevailing value preferences of the time. Our value preferences can be grouped roughly about five social goals:

- a. Economic growth: a rising standard of living for an increasing population.
- b. Economic stability: full employment without inflation.
- c. Economic security: protection of income against the hazards of old age, death of the breadwinner, accident, disability, and unemployment.
- d. Economic freedom: freedom of choice for each individual producer and consumer so long as it does not unduly abridge the freedom of others.

- e. Economic justice: economic opportunities for all.

8 - Market decisions may be modified not only by public policy, but also by voluntary activities. In a free society, millions of volunteers produce goods and services which modify the resource allocation determined by the market.

Application of Economic Ideas in the Elementary School

How can these fundamental ideas of economic knowledge be related to the child's experiences in the elementary grades? The concept of scarcity is known to every child. Children want almost everything they see, but they soon discover that parents cannot afford to buy them everything. They learn that they have to make choices, to decide what is most important to them at any one time. They discover that as they acquire more and more of that "most important thing" it becomes less important to them and something else becomes the "most important thing." Such a built-in mechanism helps us to make choices, but the choices may not always be wise choices. Lack of information about all the possible choices may result in unwise choices. Choosing between present and future needs is difficult, since the present needs usually seem more urgent. Lack of foresight about the significance of future needs weakens man's willingness to save. Such a lack of frugality affects not only the individual's well-being, but also the nation's economic development. Children can dramatize what happens when people do not save, how the lack of savings affects their ability to build machines and tools, and how a shortage of machines and tools hinders large-scale production.

These three ideas--scarcity, making choices at any one time, and making choices between present and future needs--have significant societal applications. Scarcity that children experience can be identified with the problem which society faces. Choice-making, the sum of all the individual choices, can be related to the pattern of production. The allocation of resources between saving and consumption has serious implications for the nation's economic growth. If the children understand the drama of scarcity, they will appreciate the role of producers in their efforts to discover new and better ways of producing more in a shorter time.

Children in the primary grades can discover that whoever does useful work is a producer. They discover that in their own homes some members of the family produce goods and other members produce services. They also discover that the family uses division of labor to produce more goods and services. A class project of cookie production, on an assembly line, can give the children insight into the importance of the division of labor in factories and the contribution of the division of labor to greater consumer choices.

To show how the division of labor increases total welfare, two children can pretend that each specializes in the production of a certain good. One child may produce bologna and the other child may produce bread. Through discussion the children will discover that each cannot consume all he produced. The child producing bologna can consume only a limited quantity; the surplus, therefore, has little utility for him. The situation is the same for the other child. If the two producers trade their surpluses, they each will be better off. The two children may pretend that they represent two countries. After trading, the total welfare of each country has increased.

Children in the elementary grades can comprehend the theory underlying international trade. The following game can illustrate the theory. Two children and their desks represent two farmers on their island farms in the middle of a big lake. Each farmer grows potatoes on one side of his island and tomatoes on the other side. Farmer A harvested 12 baskets of potatoes and 4 baskets of tomatoes. Farmer B harvested 4 baskets of potatoes and 2 baskets of tomatoes. Both wished for more potatoes and tomatoes. Farmer B visited Farmer A and made the following proposal: "You produced three times as many potatoes and twice as many tomatoes as I. Since you grow potatoes best, why don't you specialize in potatoes next season and I will specialize in tomatoes, and then we can trade." This is what they did. Farmer A worked hard and produced 30 baskets of potatoes. Farmer B worked hard and produced 8 baskets of tomatoes. Farmer B thought: "Since I need only 3 baskets of tomatoes, I will take 5 baskets to Farmer A and trade for some of his potatoes." Farmer A was happy to see his neighbor come with 5 baskets of ripe tomatoes. After their trading, each was better off in spite of the fact that Farmer A was able to produce both potatoes and tomatoes better than Farmer B. The children may even bargain with each other for the exchange ratio. The game demonstrates that even if one country produces everything better than other countries, it

is still worthwhile to divide the labor.

Children discover that the money father earns for producing goods or services is useful in buying the goods or services that others produce. This discovery leads children to the further discovery that money is not wealth but a convenient medium of exchange. They can appreciate better the great invention that money is by playing the following game.

One child pretends that he is a hungry carpenter. He offers to do repair work for a baker if the baker will give him a loaf of bread. But the baker has no need of carpentry work. He is suffering from a toothache. So, the carpenter stays hungry and walks on down the street. A very worried dentist comes along. He desperately needs a repairman to fix his dentist's chair. He offers to fix the carpenter's teeth but the carpenter does not want his teeth fixed; he wants bread. Then the carpenter gets an idea. He offers to fix the dentist's chair if the dentist will fix the baker's teeth, and if the baker will pay him the loaf of bread. This barter transaction is complicated. The same transaction can be carried on much more easily with the use of money. Each person specializes in producing the good or service he can do best and accepts a money reward. Each person accepts money in payment for his work because he knows that other people will accept money from him also.

The use of money leads to the concept of price. Children discover that different goods have different prices and that the price of a good can change from time to time depending upon supply and demand. The children can discover that these price changes are a kind of allocating mechanism. They can draw cartoons showing what would happen if all the children of the country decide not to spend their dimes for yoyos but rather for ice cream. The price of yoyos will fall, and so yoyo production will fall; the price of ice cream will rise, and so ice cream production will rise. This shift in the children's tastes will affect the quantity of people and resources employed in each of the two industries.

The role of price as a determinant of what and how much is produced can lead to discussions of the roles of competition, profit, and cost in determining what businesses produce. First-grade children play grocery store, usually so that they can learn to make change. The grocery store props may also be used to teach the following concepts.

The businessman needs raw materials, workers, and tools before he can go

into business to produce a good. Before he can set a price on his good, however, the businessman must consider all his costs. Of course, he must not forget that his own salary is also a cost, since he could receive a salary somewhere else if he took a similar job. Although costs are very important in helping the businessman decide on the price of his good, he must also consider people's willingness to pay the price. If people decide not to buy his good, he may have to lower his price. However, if he lowers his price below the cost, he will suffer losses. If many people want to buy his good, the businessman may decide to raise the price of the good. If the price of the good goes above the costs, the businessman earns a profit.

Since the businessman never knows if he will have customers for his good, he is taking a risk in producing it. Profit is the reward for risk-taking. To get an idea of how profit is figured, children can use the grocery store in the following way: each child may bring from home two items for the game. The class prepares a display of the goods. The teacher marks the price tags so that total sales amount to \$15. The children should not be aware that this total has been set. One child plays storekeeper; he has a helper. The rest of the class are customers.

Each customer may buy two items for which he pays with play money. There should be a total of \$15 in circulation. When the store has sold out, the storekeeper, with the teacher's help, counts the money. The teacher then asks, "Is this your profit?" Obviously, the answer is no, because the grocer has many bills to pay before he knows his profit. At this point the teacher may surprise the class by handing the grocer one sealed envelope after another. A note in the first envelope says: "Please pay rent - \$2." The grocer places \$2 in the envelope and hands it back to the teacher. Using this procedure, the following bills are paid:

Factory goods	\$5.00
Water bill.	\$.50
Telephone bill.	\$.50
Interest on loan.	\$.25
Taxes	\$1.00
Insurance	\$.25
Savings to buy new equipment. . .	\$.50
Helper's wages.	\$1.50
Owner's wages	\$2.00
Rent.	\$2.00
Light	<u>\$.50</u>
	\$14.00

After the bills have been paid, the teacher hands the grocer another envelope with a note: "If you have any money left, it is your profit."

The teacher can carry the game further by introducing competition. The first store remains the same as before. A second store is set up with a larger inventory of goods at slightly lower prices (the price tags in this case should also add up to \$15). The same total amount of money, \$15, remains in circulation. The game can be played as before, but now the customers decide which store they want to buy from. Many will choose the one that has lower prices. The game lasts until all customers have spent all their money. The two stores then count their incomes. The teacher discusses these questions with the class: Why did the first store lose so many customers? What can this store do to recover customers? (It can lower prices and offer better services.)

Whereas the storekeeper has a degree of power to set prices, the farmer has little to say about the price at which he can sell his crop. To gain an understanding of how the price of grain is determined, the children can play a game which shows how the grain market operates.

Four children play wheat producers, four play buyers, and the teacher is the salesman. Before the game starts, the class prepares play money (40 one-dollar bills) and small cut-out trucks (16). They also make the following signs: BUYER (4 signs), SALESMAN, UNITED STATES, AUSTRALIA, CANADA, ARGENTINA.

The teacher explains that not all people are willing to pay the same price for the grain and that in the real grain market each buyer would make up his own mind. But to keep the game simple, each of the four buyers will be given a slip of paper telling how much he is willing to pay. The slip for the first buyer says: "I want to buy 4 truckloads of what and I will pay up to \$4 a truckload." The slips for the other three buyers will be the same except that their top bids will be \$3, \$2, and \$1, respectively. Each buyer should have enough play money to cover his top bid (\$16, \$12, \$8, \$4).

The children who take the role of wheat farmers can introduce their countries. They explain that Argentina, Australia, Canada, and the United States are among the few countries that produce enough wheat to sell to other countries. Each farmer-producer pretends to telephone instructions to the salesman. Weather and other conditions have been such that each country has produced two truckloads this year. The farmer-producer of Australia, for example, tells the salesman: "Australia has two truckloads of wheat and wants to sell them at the highest price you can get."

The farmer-producers of Argentina, Canada, and the United States also give the same instructions to the salesman. The salesman adds the amounts on the blackboard and announces that a total of eight truckloads of wheat are for sale.

The buyers come to the market. The bidding starts. The salesman must sell all of the wheat at the same price. The salesman calls out: "Who is willing to pay \$1 for a truckload of wheat?" All four buyers raise their hands to buy; each says: "I want to buy 4 truckloads." This makes a total of sixteen truckloads, twice the amount the salesman has. Since the buyers appear to be eager to buy, the salesman asks the farmer-producers whether he should try to sell at a higher price. They say yes, and he tries \$2 a load. This time three buyers are willing to buy four loads each. This makes a demand for twelve truckloads, but the salesman has only eight truckloads to sell. Obviously, he should try for a still higher price, so he asks: "Who is willing to pay \$3 a truckload?" This time two buyers raise their hands. Each wants four loads, or a total of eight loads. Just to make sure this is the best possible price, the salesman tries a higher price--\$4 a load. This time there is only one buyer and he wants only four loads. This would leave the salesman with four loads still unsold. So he turns back to the two buyers and sells the wheat at \$3 a load. Each buyer pays the salesman \$12. He asks the four farmer-producers to deliver the wheat and pays each of them \$6. He hands each buyer four cut-out trucks.

The class pretends that a year has passed. Each farmer-producer has tried to raise as much grain as possible. The weather has been good, and the farmer-producers telephone to the salesman that each has four truckloads to sell. The salesman then offers sixteen truckloads for sale at the grain market. The bidding starts at \$1 as before, with all four buyers eager to buy four loads. This would mean \$16 for the sixteen loads available. The salesman then tries \$2 a load; this time only three buyers raise their hands, and they want only twelve loads altogether. If the salesman tries \$3 (the price he got last year), only two buyers are willing to take a total of eight loads. Since the salesman has to sell all the wheat he has, he goes back to the first bid--\$1 a load for sixteen loads.

As before, the buyers pay the salesman and the farmer-producers deliver the wheat. Each farmer-producer gets \$4.

The teacher puts the results of the two years' transactions on the black-

board:

1st year: 8 truckloads sold at \$3 each . . . \$24

2nd year: 16 truckloads sold at \$1 each . . . \$16

The class can discuss why the farmers earned less even though they produced more. Since the amount of bread bought does not change much when the price goes down a little, its price must go down a great deal before people will buy much more of it. When there is more grain to make more bread, its price must go down a great deal, too. The teacher explains that low prices, insects and bad weather are risks that farmers face. There are millions of farmers all over the world, and none know how much grain there will be to sell until it comes to market.

Whereas grain farmers have to sell the goods at a price which is determined by the interaction of many buyers and sellers, the monopolist has much power to determine prices. The following game can illustrate this power.

The teacher announces that he has invented and patented a toy airplane with a new kind of engine that can run for five years without a change of batteries. It costs him fifty cents to produce each airplane, and he would like to find out what price to charge to get the biggest profit. Since the teacher is the only producer of such an airplane, he can get a good price, but if he sets it too high, too few people will buy the airplane and he cannot profit. If he charges too low a price, it will take too many buyers before he can begin to make a profit.

Six girls and six boys are selected as buyers and given some play money. The amount each child is given represents the price he is willing to pay for a plane. The girls will be given smaller amounts because they would probably have less interest in airplanes than would boys. The teacher can distribute the money in this manner:

2 girls: \$1 each

2 girls: \$2 each

2 girls: \$3 each

2 boys: \$4 each

2 boys: \$5 each

2 boys: \$6 each

Testing the eagerness of the buyers, the teacher begins: "How many would like to buy an airplane at a price of \$6?" Two boys raise their hands. The teacher continues to test the prices, and tabulates the data on the blackboard.

No. of Airplanes	Production Cost	Price	Income	Profit
2	\$1	\$6	\$12	\$11
4	\$2	\$5	\$20	\$18
6	\$3	\$4	\$24	\$21
8	\$4	\$3	\$24	\$20
10	\$5	\$2	\$20	\$15
12	\$6	\$1	\$12	\$ 6

After the survey is completed, the class can study the results to see which price would earn highest profit. The study of the chart should help the children discover the rule that the highest price doesn't mean the highest profit if many more consumers are willing to buy at a lower price.

The class might discuss various aspects of this example of price setting. Could the consumers go anywhere else to buy this toy? (No, because the manufacturer had patented his invention so that no one else could produce it.) How does this fact affect the price? (This manufacturer can charge a higher price, since there is no competition.) Can he charge any price? (No, if the price is too high, people may not buy this airplane.) Why is it that a wheat farmer cannot set his price in the same way that the toy airplane manufacturer could? (If the farmer charged more for his wheat, the consumers could easily buy elsewhere.)

Children of the lower elementary grades can dramatize that in the organizing of factories the factors of production are combined in the proper way. Children may act out what happens if ten children are assigned to make a display, but only one pair of scissors and one brush are available. What happens if there are lots of scissors and brushes available, but only one child is assigned to do the display? Such exercises can give children an idea of the complicated role of the businessman. He must set up a factory that is neither too big nor too small, hire the right number of workers, and purchase the right number of tools and machines, and enough raw material to keep the machines supplied without creating a storage problem. In addition, he must guess correctly the quantity of goods that he will be able to sell.

The class might draw funny pictures showing what happens when the businessman makes wrong decisions--a huge building with one man inside pounding with a hammer; a very small building with an overflow of big machines and men working outside in the rain; a big building with many machines, but the workers are snoozing because the businessman used up all his money and could not buy

raw materials. Each child might tell a story about the mistake the businessman in his drawing made.

The role of government in economics can be introduced in various ways. In the first grade, children learn that families elect a mayor and lawmakers for their city, a governor and lawmakers for their state, and a President and lawmakers for their country. They also learn how families buy some goods and services together, through government officials. The mayor or the governor or the President prepares a long shopping list of goods and services that the families might buy together. The mayor and the city lawmakers, or the governor and the state lawmakers, or the President and the country's lawmakers discuss their different shopping lists. The families tell the lawmakers what they think about the shopping lists. Some families think the shopping lists are too long and will cost too much. Other families think the lists are too short. Finally, after much discussion, a city shopping list, a state shopping list, and a shopping list for the whole country are decided upon.

The city or state shopping list tells how many streets and highways the families should build together. The national shopping list tells how much land will be bought for national parks and how many airplanes, ships and tanks should be built and how the government will pay for all these expenses. The shopping lists also tell how much money should be used to help the needy and how the people should pay for this help.

The children may learn that resources are allocated not only through buyers and sellers in the market or by the government; but also that people volunteer to produce a large quantity of goods and services every year for many causes which they feel important. Such volunteering is an exercise of freedom in a free society.

At the beginning of this paper, it was said that the purpose of social science education is to develop the problem-solving ability of children. The problem-solving approach is the application of the scientific method to fulfill social needs. Let us take an example from the children's immediate environment--the neighborhood. If the neighborhood is dirty, the children may study this community concern by dividing it into the following steps:

STEP 1 - Evidence: The teacher can ask the children to observe on their way to and from school how dirty the neighborhood is, and to report on the evidence.

STEP II - Definition: The class may decide what the big question is. (How can we make our neighborhood cleaner?) The question may be printed on a large sheet of paper and placed above the blackboard to emphasize its importance.

STEP III - Aspects: The class may be divided into three groups to study and report on how dirtiness affects our health, our possessions, and our happiness.

- a. How dirtiness affects our health. (Dirt spreads disease. Things left on sidewalks can cause accidents. Dirt encourages rats. Dirt makes the air unwholesome.)
- b. How dirtiness affects what we own. (People do not want to buy houses in dirty neighborhoods. People who own houses there have to sell them at a lower price than they would get for a house in a clean neighborhood. Dirt makes houses, furnishings, clothing, automobiles wear out faster.)
- c. How dirtiness affects our happiness. (Many good neighbors move to cleaner neighborhoods. Dirty neighborhoods are unpleasant to look at. People are more cheerful when a neighborhood is well kept.)

STEP IV - Size: The class should make a statistical survey of the problem. In the area under discussion, they should count how many toys were left outside, how many yards there are and how many of them are not kept clean, how many streets have paper or trash in the gutter, and other such evidence.

STEP V - Causes: The class should investigate the causes of the problem. (The class might find, for example, that streets and sidewalks are not swept, people with bad habits throw trash on the ground or do not cover their trash cans, trash collection trucks do not come around regularly, heavy trucks stir up dirt.) After the class study, a panel can put the

findings into report form.

STEP VI - Solution: The class should make a list of various ways the problem could be solved. When these solutions have been listed, they may cluster into three groups:

- a. What can each person do?
- b. What can the people do together?
- c. What can the government do?

The class may be divided into groups for the carrying out of recommended solutions. For example, one group might visit a kindergarten or a first-grade class and talk to the children about bad habits like dropping trash on the ground or leaving toys on the sidewalks. Other groups might organize children to start a clean-up campaign in the neighborhood; they also might prepare posters that explain why the neighborhood be kept clean and how neighbors can work together to do something about the problem. One group might visit the mayor or the sanitation department--or invite an official to visit the class--to find out about the department's plans to provide better services for cleanliness in the neighborhood.

As the children grow up, the fundamental ideas of economic knowledge will be taught again and again, but with greater depth and always related to more complex situations. By the time the children get to the 12th grade, the economics courses which are taught now as introductory courses will become a culminating activity. The 12th grade course should coordinate in a systematic manner the main ideas which children have discovered and rediscovered in their community, in far-away lands, in history, and in the problem courses.

Conclusion

Sometimes people argue that children of the lower elementary grades should not be exposed to social realities. Regardless of adults' wishes to protect children, children are constantly and involuntarily exposed to social realities. They are witnesses and participants in the economic and social world. In the schools of our country, children of many social and economic backgrounds rub shoulders: poor children, rich children, the children of businessmen, teachers, farmers, salesmen, factory workers, and all the other occupations. Children's experiences have widened, through the mass media, from

their homes to all around the world and out into space. These are the reasons that the responsibility of teachers grows. Children need all the help they can get to find order underlying the seeming chaos of experience in an increasingly urbanized world and an expanding universe.

