

Some time ago, we printed translations of two important articles from a Shanghai journal *Dialectics of Nature*, published from 1973 through the end of 1975. The two articles were authored by Bian Sizu, and titled "Matter is Infinitely Divisible," printed in RW No. 122 and "The Universe Is the Unity of Infinity and Finiteness," printed in RW No. 135. Subsequently, in the interest of prompting continued struggle and debate over scientific and philosophical questions, we published a letter from a reader in RW No. 141 in response to Bian Sizu's article "The Universe Is the Unity of Infinity and Finiteness." Recently the RW received a letter from "another reader" with "some belated comments" in response to the previous letter "in the hope of continuing the debate on these questions in the pages of the RW," and we are printing this letter below. In studying and responding to this latest contribution, readers will want to read the two articles by Bian Sizu, as well as the first reader's response; those readers who do not have these issues can find them at the nearest Revolution Books or can write for copies to RCP Publications, P.O. Box 3486, Merchandise Mart, Chicago, Illinois 60654 (send 75¢ for each back issue).

The reader asks, "Why should we think this 'universe' is the only one of its kind? There are probably huge numbers of such 'universes' within the Universe." The first part of this argument is okay and is explicitly in agreement with Bian Sizu's point: "Every concrete universe has its boundary and limit, this is equally true from the atom to the overall cluster. Beyond the boundary of this 'universe,' this 'universe' has reached its peak; there will be qualitative change taking place, thus it will enter into an even higher level 'universe' with its own new boundaries." However the second part of the reader's argument above is metaphysical. He says, "Should it surprise us that finite, unbounded 'universes' constitute one level in the hierarchy of matter?" Actually, if it were true, it would be a surprise indeed and would indicate the falsehood of dialectical materialism. In fact, what Bian Sizu says is not at all what the reader indicates that he says. The reader says Bian Sizu "attacks the big bang

theory of the universe as well as the very possibility of a finite but unbounded 'universe'...." What Bian Sizu actually states is that "the universe is always both finite and infinite, both with and without boundary...."

In fact, the reader's "finite but boundless 'universe'..." falls into the pit of metaphysics that Bian Sizu warns us about when he points out that: "Real infinity* grasps the aspect that the infinite can transform into the finite, but pushing this to its extreme, equates the infinite with the finite. Thus the infinite has also become finite.... No matter how far they (i.e., the reader) go, still they cannot escape the domain of the theory of a finite universe...."

At bottom of the reader's problem with metaphysics is idealism. It is just not true that "science is science... period" as he would lead us to believe. It is true that there do not exist a "western" and a "Chinese" science, but Bian Sizu's article does not "smack of Chinese nationalism" as the reader charges. It smacks instead of the proletarian philosophical outlook in the realm of

science. One of Bian Sizu's central themes in this article (as well as another previously published in the RW)** is exactly that science is not "just science" but an arena of struggle in which human beings bring their relative and limited scientifically correct understandings of the material world more and more into objective accordance with the laws of nature and yet, can never grasp it all absolutely. It is this endless struggle, in a spiral-like development to higher and higher levels of correct scientific understanding, that is exactly affected by class struggle. Scientific understanding is not something apart from and metaphysically walled off from classes and class struggles as the reader's "science is science" viewpoint suggests. Instead science and scientific understanding are influenced by and guided — correctly or incorrectly — by philosophical class outlook and struggle. This is Bian Sizu's point when he, over and over again, points out how developments in scientific understanding took place at certain historical junctures, but always fell short because at bottom the scientific experiment and investiga-

tion and thought had always been guided by idealism and/or metaphysics.

Bian Sizu's "attack" on the big bang theory is actually a proletarian objective analysis of this theory from the point of view of dialectical materialism, indicating its shortcomings and the ways in which it is still a limited and one-sided scientific premise. This is obviously true. In fact, while it is true as the reader emphasizes (*over-emphasizes*, one-sidedly in fact) that the big bang theory "brought a whole section of astronomers and physicists to increasingly stand against idealism and develop (objectively) in the direction of a dialectical materialist understanding of the universe including raging and profound debate over chance and causality in physics...." it is also true that the big bang theory and its propagation gave a new lease on life to revitalized attempts to reconcile religion and science, exactly because as a "theory" it easily lends itself to the idealist point of view that the "big bang" was the "creation" of the universe "out of the void" by some "higher power."

The reader's interpretation of the big bang theory falls into what can be called a "false infinity." Thus even where he claims he draws a distinction between "the universe" and "the Universe," he does not — or he could not attack Bian Sizu's correct line and analysis. In Bian Sizu's article, in the section dealing with time, he says, "... one universe is finished and another 'universe' is born. The universe is in this way going continuously from quantitative changes to qualitative changes, in transition from one kind of material form to another, forever, without end and without boundary." This viewpoint is qualitatively different from the reader's metaphysical "oscillating" universe, which boils down to a "false infinity" of the sort analyzed by Bian Sizu: the "1, 2, 3, 4..." infinite series kind of "infinity" in which infinity is metaphysically separated from finiteness and the dialectical "unity of opposites" is irretrievably broken. This is metaphysics, but Bian Sizu's "unity of infinity and finiteness" is dialectics.

The fundamental weakness with the big bang theory is that it lends itself to metaphysics as well as (relatively and par-

* Editors' note: The concept of "real infinity" referred to in this quote from Bian Sizu is a philosophical category used by Hegel and does not indicate Bian Sizu's analysis of infinity. In "The Universe Is the Unity of Infinity and Finiteness" Bian Sizu points out:

"Hegel called this infinity that can transform into finiteness, the 'real infinity.' The real infinity is the reachable, graspable infinity. It envisions that the infinite can transform into the finite, that the finite contains the infinite. Therefore, it is possible for matter to compose itself as given masses, and for the universe to possess a given level-type structure. The infinite material compositions form finite 'elementary' particles, atoms, molecules, macro-objects, life, planetary systems, galaxies, clusters.... Within it, every level is a different state of aggregation of matter, each is both an inexhaustible 'universe' and a given finite whole. In this way, the infinite is no longer some void thing beyond the finite actual, but rather actually exists within concrete things. Engels said, 'States of aggregation — nodal points where quantitative change is transformed into qualitative.' (Engels, *Dialectics of Nature*, p. 285.)

"The process of the finite transforming into

the infinite is no longer a simple expansion in quantity, but rather there appears discreteness, qualitative changes. From such a 'small universe' as an 'elementary' particle to an atom, molecule... till such a 'big universe' as an overall cluster, all these have been one after another turning points in the transition from the finite to the infinite.

"The level-type structure of the universe based on the concepts of real infinity contains dialectics. It opposes the views that treat the universe as a block of structureless, absolutely homogeneous mess, and illustrates that matter has definite structure and is divisible.

"But, within the real infinity another deviation is covered. The real infinity is infinity completed, and makes the infinite finite. This actually is only a link in the process of the finite transforming into the infinite, an approximation in the method of treatment. If you make it absolute, and view this infinity as the final infinity, then you are liquidating infinity. Hegel is like this. He really worships the real infinity, treats it as something beyond the infinite. 'Beyond' the infinite, doesn't it return to the finite?"

**"Matter is Infinitely Divisible," Bian Sizu, published in RW No. 122.

Discussion

Continued from page 13

tially) to dialectics. It is only partial and relative truth, not absolute as the reader implies. Yes, as the reader indicates, scientific investigation and experimentation now suggests that 15 billion years ago a primordial explosion took place. But the debate coming down between people like Jastrow on the one hand, upholding "something out of nothing," the bourgeois, idealist point of view — and those scientists objectively tending towards materialism like Carl Sagan, who tend toward the viewpoint that "this must have been formed out of the collapse of the previous cycle of the 'universe'..." — this debate misses the more profound dialectical truth, as does the reader when he couches the debate in those terms.

The more profound debate is not between idealism ("something out of nothing") on the one hand, and metaphysics ("false infinity," an endless series of "oscillating" cycles of "universes" in which "infinity" is always just around the corner, one direction or the other). Both of these points of view are incorrect. It is Bian Sizu who gets to the more profound truth: "The real infinity is infinity completed, and makes the infinite finite."

There is finiteness in infinity, and infinity in finiteness. Thus the universe is infinite not only in quantity (an "endless series... of finite universes") but also in quality. That is, the universe itself is infinity and at the same time, the concrete expression of the universe is finite (and within that finiteness, there is endless infinity; i.e., "every given finite whole is exactly the infinite aggregate of actual things" — Bian Sizu). As Bian Sizu points out, "the development of the universe is expressed in the development of all things in the universe," and he adds that the "overall cluster" (which is the equivalent of the reader's "universe" uncapitalized)... "can only be some concrete expression of the universe. Though it can also be called some concrete universe, it can never be the whole universe."

Part of the basis for the idealism of the reader's viewpoint is his mistaken grasp of Bian Sizu's discussion of the universe's existence in time. (This is also part of the basis for his hang-up about Bian Sizu's supposed "attack" on the big bang theory.) The reader would like to cement the material cosmos as it exists in current time (what he calls the "universe") and then be able to neatly trace its existence back to a point at which it did not exist. Basing himself on "scientific evidence" that so far takes us "back in time" only some 15 billion years (a mere blink, relative to infinite time), he can then criticize Bian Sizu for "attacking" the big bang theory. But Bian Sizu does not disagree that it is possible in finite time (i.e., 15 billion years) that "one universe is finished, another universe is born." What he says is that this "theory" (the big bang theory) does not apply to the reader's "Universe," because the Universe is infinite in time. It is not 15 billion, or 15 billion billion years — not time of any concrete measurement at all. In fact, Bian Sizu points out that there must be many different kinds of time itself ("one kind of time among infinitely many concrete times. One kind of time terminates, and another kind of time begins...").

The problem arises in trying to turn infinity into finiteness, and thus attempting impossibly to turn a concrete expression of the Universe into the Universe. Once again: "the universe is infinite, the concrete expression of the universe is finite" — in space, in time. The reader does not understand or disagrees with this fundamental point, and attempts to combine two into one, the most obvious example of which is his "finite and bounded universe" which he distinguishes from his "Universe" (which is what? infinite and bounded?). No! The Universe is the totality of all that exists, the totality of all matter in space and time.

Bian Sizu's analysis is also different from that put forward by some very progressive scientists who objectively lean towards materialism. It is not the big bang theory. The latter is a partial scientific explanation of the development of

one level in the hierarchy of matter in a finite and relative form in finite space and time (over the 15 billion years or so). It is a limited scientific explanation which can be made use of by the proletariat to further its dialectical materialist understanding of the material world and nature; but there is no guarantee that the big bang theory will serve the proletariat. It can and does also serve the bourgeoisie.

Separately but as part of his overall attack on Bian Sizu's article, the reader mentions "The whole struggle in physics is ripe with examples of advances in man's understanding around which proletarian and bourgeois outlooks struggle." This is true. However, he goes on to say that "The discovery of quantum mechanics and Heisenberg's uncertainty principle led Einstein to exclaim, 'I cannot believe God would play dice with the world' and others to say this proves you cannot know the world much less change it, yet this did not prove it wrong. In fact this theory is correct and has been the basis for further advances in science and philosophy." Once again, there is one-sidedness and metaphysics rampant here.

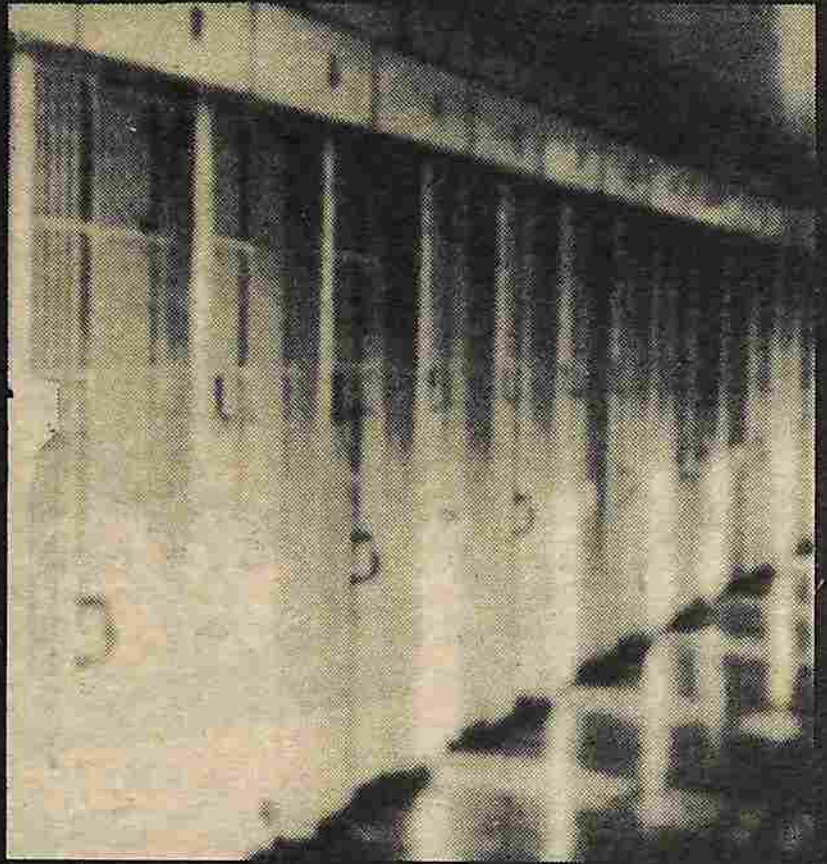
In fact, quantum mechanics and Heisenberg's uncertainty principle are not "correct" in an absolute sense. They divide into two, and while there is relative truth to these scientific developments, there is also an aspect that is limited, and in fact, in part incorrect. These developments have, as the reader points out, been the basis for "further advances" in both science and philosophy, but they have also given rise to much philosophical and scientific confusion and agnosticism (much as did the "proof" of the existence of atoms at the turn of the century as traced so thoroughly in Lenin's "Materialism and Empirio-Criticism," in which Mach's absolute denial of the new science is shown to directly and thoroughly give rise to a reactionary idealist viewpoint in the political and philosophical spheres). In point of fact, Heisenberg's uncertainty principle and its application in recent high-energy particle physics experiments in the realm of quantum mechanics has given rise to a new philosophical school of thought (new in the sense of newly revitalized; actually old) within the physics community which suggests that the material world does not exist at all except as it is "observed" — a veritable swamp of idealist thinking.

For the reader to state unequivocally that quantum mechanics "is correct" is like saying fifty years ago that Newtonian physics was "correct." Yes — and no. Concrete scientific developments do push forward scientific understanding and experimentation... up to a point. But they are still limited and relative truths, both Newtonian physics and quantum mechanics, at least as the latter has been developed to this point in time.

With regard to Heisenberg's uncertainty principle specifically — a linch-pin of quantum mechanics — Bian Sizu analyzes its incorrect aspects in the article reprinted in RW 122. He says there: "Heisenberg said, 'Just as the Greeks had hoped, we have by now found the only elementary object which is actually in existence.' This is the quantum of energy, i.e., the 'elementary particle,' which is 'the smallest indivisible unit of all matter' (*Philosophical Questions of Nuclear Physics*, 1948, British edition, p. 103). This quantum sets the final limit of analysis. Within this limit, man can accurately measure a certain quantity, can investigate in a thousand and one ways the various relations outside of the 'quantum'; but once having gone beyond this limit and getting within the quantum, everything becomes blurry. If you want to pinpoint the exact position of a particle, then speed won't be certain. If you want to make certain of its speed, then location becomes blurry. In sum, precisely because the quantum is indivisible, the micro-object is either shown as particle or as wave. And we can only describe them as particle or describe them as wave. This is our final description of micro-objects. Our understanding of the material world can only go this far and must stop here. Deny the absolute divisibility of matter and you inevitably get into this blind alley of 'final truth.'" It is exactly this blind alley the reader would lead us down. As Bian Sizu sums up later, "Heisenberg just advanced one step, then fell back again into the swamp of metaphysics."

The connection between the reader's

Shine the Light of Revolution Behind the Prison Walls



Contribute to the Prisoners Revolutionary Literature Fund

The Revolutionary Communist Party receives many letters and requests for literature from prisoners in the hell-hole torture chambers from Attica to San Quentin. There are thousands more brothers and sisters behind bars who have refused to be beaten down and corrupted in the dungeons of the capitalist class and who thirst for and need the *Revolutionary Worker* and other revolutionary literature. To help make possible getting the Voice of the Revolutionary Communist Party as well as other Party literature and books on Marxism-Leninism, Mao Tsetung Thought behind the prison walls, the *Revolutionary Worker* has established a special fund. Contributions should be sent to:

Prisoners Revolutionary Literature Fund
Box 3486, Merchandise Mart
Chicago, IL 60654

RW:

I would like to have a free damaged box of *Questions of Revolutionary Strategy for the 1980s*.

As you know I'm a prisoner and I'm still doing bad moneywise. Which I hope you can understand. I'm still in the hole. I think they're going to keep me in the hole until I get out. That's 2 more years from now. The only thing I got to do while I'm in the hole is study and I like studying Marxism. I have been studying history and by reading history it has shown me what kind of animals I'm dealing with. They also got half of the convicts working for them in here. When they had hostages at the Western State prison in Pittsburgh they locked the whole jail up for 2 days and while this was going on the convicts were crying out loud to the guard saying let us out, "we'll get them." That's a shame. I can remember 10 years ago the convicts wouldn't have cared how long they would have been locked up as another convict was trying to get away. Now things are changing and it's hard for me to cope with this. I've been in the hole 1 year now, and in that one year I have seen 25 beatings by guards. Back in the day the convicts wouldn't have allowed it... What we need is more Revolutionary and strong minded men, not only in these prisons but on the street too. It's just as bad out there as in here piglet wise. I have read in the paper that a prison guard from Camp Hill prison killed 13 people. They are not going to give him the chair. They're trying to say he's nuts, but if that was me or you we would die for something like that. I got this newspaper clipping I'm sending you about a piglet guard who shot and killed his wife, and shot and almost killed his kids. Now for this they only put a third degree murder charge on this piglet which if he gets any time it would only

be 5 to 10 years or 10 to 20 years PA. law. Now he will most likely go to the nut house and get out in 6 months... Why can't we stick together like those capitalist punks. One day we will. I believe that. I'm going to let you go now. I know you got a lot of work to do and good work at that. Remember if you have a damaged box of QRS I would highly appreciate it if you could send it to me. I would also like to thank you for the newspaper you have been sending to me. I would like to still receive your newspaper too... I consider your people, my people.

Yours in this war on the front line which we will win, I have faith in us.

Dear Comrades,

Could you tell me how I would have to go about getting a list or catalog of the literature of the RCP or any books, pamphlets, or literature from around the world. Also could you please tell me how I could get a copy of *Selected Works Vol. 2, Mao Tsetung, Quotations of Mao Tsetung, and Selected Military Writings*. Because if I had these I could come to understand Mao Tsetung's *Immortal Contributions* a little more. As I am a prisoner here and I don't have any funds available to me.

Thank you.



unqualified praise of Heisenberg's uncertainty principle (it's "correct") and his attack on Bian Sizu's line is the same metaphysical distortion of the theory of knowledge. Mankind's knowledge is advancing through struggle (including class struggle) in the realm of science. Yes it makes leaps. But it is always finite, not in-

finite knowledge. Partial, not whole, truth; relative, not absolute.

Looking closer at Heisenberg's uncertainty principle, for example. One might say that it is based on contradiction. But it is based on metaphysical "contradiction," "either/or" which is not dialectical.

Continued on page 15

High-Tech

Continued from page 7

San Jose Mercury reporter Pete Cary, who wrote the articles, said recently, "I have done articles on the black market, on stealing, and embezzling, on espionage, but this was the worst (for reaction), this one caused more uproar than any other. . . ." Since that article, there has been no more exposure of homework. Today, the U.S. Labor Department says that these task forces don't exist and never were even set up, and that indeed, there is no homework in the electronics industry. Following along, the workers health and safety committee of the AFL-CIO (STACOSH) also denies that any such thing exists. Several people who want to reform such conditions and who do investigation and exposure of Silicon Valley told us that they were sure that homework was going on, but that it would be impossible to investigate because it was so shrouded in secrecy and because the workers involved in it would not talk to anyone about it.

Among the women proletarians who are doing homework or who have done it, we did find much reluctance to talk about it — several women first denied any knowledge of it but as we talked for a while they began speaking of their experience. One such woman, a refugee from El Salvador, told how her sister had brought her some work from her plant: "She brought me some boards because I was pregnant and had no work, so she brought me some to help out and all I got was \$10! For 200 boards! And it was complicated, the instructions were several pages long, like a booklet, or a folder they called it, and I got a neighbor to help me, and we worked two-and-a-half hours every evening for a week, and they paid us \$10. (She started laughing at this. It struck her as so absurd — this work was given to her sister as a special "privilege" for being a reliable worker.)

Even our beginning investigation has made clear that homework is still very

much a going thing in the Valley. In the neighborhoods where immigrant proletarians live, many know of neighbors who do homework. Sometimes the work is done by women who have full-time jobs in electronics and the homework, as in the example above, is handed out by the management of the plant — a "privilege" to "supplement" wages that are by themselves almost impossible to live on, especially for women supporting families. In other cases the homework is handed out by middlemen — who make contracts with large companies to deliver a certain amount of work, then find women to do the work in their kitchen. Sometimes these "middlemen" are supervisors at electronics plants, out to amass their own small capital by squeezing homeworkers.

The San Jose Mercury article mentioned above described how homework fits into the overall production process in electronics:

"Assembly of printed circuitboards is one of the most time-consuming, labor-intensive parts of the electronics business. 'Stuffing,' or inserting, the integrated circuits in the wire implanted plastic boards with holes for the circuits is the seventh step in a process that creates a product useable in calculators, computers and other electronic equipment.

"The circuits must be placed in the holes one at a time.

"Many electronics groups have turned to outside contractors — legitimate companies — to do some or all of their circuit-board assembly work. The work involves a variety of operations, much of it done by machines. But 'stuffing' still requires the human hand.

"'Stuffing is so time-consuming,' says a legitimate assembly company executive. 'There's no rhyme or reason to a board. Each one is different. You put them on a long table, walk down the line and put a part in a slot in each board. Then you go back and walk down the line again and put another part in another slot. It has to be done by hand and there's no way to speed it up. But the home operations can really jam out a lot in a

short time.'"

Along with the factor of production speed is the cost of production and the actual wage paid the worker — homeworkers require no investment in plant space and usually buy their own tools, such as soldering irons. And the piece rate paid usually (though not always) amounts to an average rate much lower than that paid in "legitimate" plants. On top of this, in the course of investigating homework, we learned of the existence of a whole strata of such "legitimate" plants in sharp competition with the homework subcontractors for Silicon Valley's "exploitation of immigrant proletarians" award. Workers repeatedly told us of electronic sweatshops — most engaged in the production of printed circuitboards — that hired only, or mostly, undocumented workers, that paid half time for overtime and less than the minimum wage, that systematically "laid off" workers who had been there for years and had worked up to maybe \$5 an hour, rehiring them a few weeks later for the minimum wage. Very common among these workers was the fear of making too much money — a sure sign that you were about to be laid off, whether a supervisor or merely a production worker.

It's quite revealing that there have apparently been few or no major immigration raids in these plants which are obviously well known to the industry executives. One man told us, ". . . they've never raided us in the 3 years I've worked there. Once they came and grabbed two guys who had been denounced to them, but they didn't even question the rest of us. And we were all around and everything but they just grabbed those two young men."

La Migra is clearly not ignorant of the existence of these plants. But the labor of the workers, in these plants and at home, is crucial to the industry — indeed to the U.S. economy as a whole. And the coyotes who bring workers directly to Silicon Valley from Mexico are one more part of the necessary conditions for the reproduction and expansion of capital in

electronics. In a recent visit to an apartment complex that serves as a kind of "first stop" for immigrants just arrived from Mexico, we found many electronics workers and homework going on. One woman was soldering circuitboards for an airliner in her tiny apartment, with her five kids on the other side of the room.

The apartments surrounding hers were a series of one and two story apartments, surrounded by patches of oil-stained weeds where abandoned cars and garbage are littered. Many of the buildings, including those with people living inside, are boarded up. The doors in most of the apartments are broken — each doorknob had been replaced as if all of them had been broken into. One of the few jobs the men who live there can get is as gardeners — so every now and then you see plastic tubs with flowers in them — carnations or rock-rose or geraniums — an attempt at beauty that in some ways makes the decay and bareness of the apartment stand out all the more. The women at these apartments first told us about the conditions in the electronics sweatshops — here, the women can find jobs much more easily than the men.

These are the conditions disguised by the lilies in the pond and the flowered trellises on the grounds at ROLM not far away. Here we have the high-tech, transnational monster, the Silicon Valley electronics industry, which has attracted more than one-sixth of the venture capital now invested in the U.S.; the only place where you can get a patent in the U.S. outside of Washington, D.C. is the diminutive Sunnyvale Public Library. The Valley is the heart of an industrial process spread across the globe. And yet what makes this monster tick? It is the tens of thousands of women workers from rural Mexico and Indochina and other neocolonies, a good many of them making computers in their kitchen with barely enough room left to fix and serve dinner. It is an incredible contradiction which does force the question of getting rid of such ridiculous and oppressive social relations and getting on with revolutionizing society on a world scale. □

Discussion

Continued from page 14

tics. It sees the contradiction between momentum and position in particle physics, but not the dialectical unity of these opposites. Because it bases itself on a fundamentally metaphysical premise — the "quantum" as the absolute, indivisible limit beyond which it is no longer possible for the particularity of contradiction to apply — it can see the contradiction between discreteness and continuity (particle and wave) but not the unity (identity) of opposites. It reflects partial truth, but not absolute "correct" truth and when taken as the latter, can only lead further into the "swamp of metaphysics" (and idealism) described above.

A final point. The reader accuses Bian Sizu of "anthropomorphizing" in the section of his article titled "Everything in the Universe is Constantly Developing." In this context he criticizes Bian Sizu for a "straight line view of the development of man." This is a ridiculous charge.

What Bian Sizu says in fact is this: "Elementary" particles are bound to transform, humans are bound to die, the Milky Way, Sun and Earth are bound to finally decay and be destroyed. Even something lasting as long as 'Heaven and Earth' eventually will come to an end. Even the human species itself is going to change, and going to die out."

For the reader to charge that Bian Sizu holds that man will "develop forward in a straight line" is patently false. But more fundamental is another problem, relating again to the reader's own metaphysical concept of infinity. Because the reader can not reconcile what Bian Sizu says with "a universe" which will ultimately collapse to be 'reborn' to be sure, but it doesn't seem likely that intelligent life would survive" (reader) — he runs into a dead end. This is the same "false infinity," the metaphysical, cyclical, "endless series . . . 1, 2, 3, 4, . . ." view of infinity and the development of matter in infinite space and time.

The reader hangs himself up arguing between "collapsing" and "banging" universes — but Bian Sizu is discussing a "developing" universe. There's a dif-

ference. The reader is stuck with a narrow world view, like a frog in a well. Perhaps he misleads himself because his "well" is camouflaged by the cover of the "known cosmos as it exists and has for 15 billion years," but philosophically speaking that is still a narrow little well and the reader a small green frog at its bottom, unable to see beyond it. For instance, the reader says: ". . . atoms do not evolve into endless higher atoms, but on the next (molecular) level in the hierarchy of matter these stable atoms take part in the evolution of chemical and biochemical compounds and eventually the development of intelligent life itself. . . ." True, in the last fifteen billion years or so (a mere blink in the eye of infinity) that is the way things seem to have happened. That is a relative truth, but who is to say that is an absolute truth: things have now, have always, and will always happen this way? Who says that matter has to be organized in that form and in that way and in that concrete expression of the laws of nature (contradiction)? Arguing, as does the reader, that matter *does* have to be organized *that way* and *that way only* forevermore is only a lead-in to allowing the existence of a power external to matter that "organizes/organized" it according to its will in just that way. Otherwise, the only absolute truth is that the only fundamental and eternal law governing the organization of matter is the law of the unity of opposites, which can and does take an infinite quantity and quality of discrete forms.

For example, in just the last several years, the reader's praised theories of quantum mechanics and Heisenberg's uncertainty principle concretely applied in high-energy particle physics have led to the discovery that that "stable atom" is not in fact "stable"; that protons, thought to be *the* stable of all particles, in fact decay over billions of years. Furthermore, even more recent and current experiments with high-energy particle accelerators are aimed at investigating exactly the question which the reader says cannot be a question at all: scientists are now putting together evidence of the "big bang" (x-ray and radio wave evidence) with results of particle accelerator experiments to investigate and search for proof of the widely-held theory that at the time of the cosmic event known as the

"big bang," matter was in fact *not* organized in the same way and according to the same "laws" as it is today. One such theory holds, for example, that in the first fraction of a second (as we know a "second") the organization of subatomic matter went through several qualitative changes only later producing the so-called "stable atoms" we know today as the reader terms them.

Thus the reader misses out entirely on Bian Sizu's dialectical-materialist viewpoint on intelligent life. He can see only a tiny patch of it, like the frog in the well. This is why at bottom the reader's is such a pessimistic philosophical outlook, as if "well, the universe is bound to collapse and so that's that." But Bian Sizu's point of view is entirely different and is a proletarian optimist one. He says, "When the Earth dies out, there will be even higher levels of celestial bodies to replace it. By that time people will celebrate the victory of dialectics, welcoming the birth of new stars. When the human species dies out, there will also appear even higher level species. Speaking from this point of view, human activities are creating conditions for the appearance of even higher species."

But compare this to the reader, who says, "thus life develops on the surface of a stable planet over the remaining life of our sun at least. In a similar fashion why can't our oscillating universe together with many just like it take part in development and evolution on higher levels of matter as yet undetected? Clearly this sort of development could well take place in spite of the destruction of all life in our universe billions of years from now, but that's the way reality may go."

The difference in outlooks here is the difference between the optimism of dialectical materialism and the pessimism of agnosticism and idealism. If the proletariat on this planet, in the infancy of its historical development, can stand on the basis of "conquering the world" and even dare to talk about and work for "conquering nature," why cannot intelligent life in the universe conceive of the "victory of dialectics," of conquering solar systems, galaxies, mastering nature in the form of the universe in its particular and discrete material forms?

There is a bottom line question of philosophy here. Bian Sizu is not "an-

thropomorphizing." It is the reader who separates human consciousness and intelligent life from its material base and places them into a special category that "comes along every now and then" (when there's a stable planet near a sun for a while), as if the universe oscillates and then it is wait and see if intelligent life happens to develop for a while before it is inevitably wiped out again.

Well, intelligent life did develop. That's a fact. And meanwhile, the universe is still developing, and Bian Sizu's point is that so is intelligent life as part of that, both influenced by the development of the material universe (which gave rise to intelligent life, no doubt about that), but also (and this is what the reader negates) *capable of influencing* the material universe! Is it too "wild" a dream, rampant "idealism" (of the sort that Mao Tsetung was charged with by the Chinese revisionists) to suggest that intelligent life might just be capable of influencing the material universe to avoid being "wiped out" in the next "qualitative leap" (i.e., of the big bang sort) it makes? According to the reader, yes. His line is that "mankind came along, and mankind will just have to go." True, but only relative truth. The development of mankind is part of the development of the hierarchy of matter, which not only develops but develops in a spiral-like way, from lower to higher, not just in endless circles and endless series (1, 2, 3, 4, . . .). In this sense mankind is *only* part of its development, but in another sense, it *is* part and will therefore go on, as Bian Sizu says, "creating the conditions for the appearance of even higher species. . . ."

But with an agnostic metaphysical and idealist viewpoint which can and does only lead to a dead end of pessimism, the reader cannot dare to look so far, aim so high. I would only suggest to the reader that the frog who is content to live in a "cosmic" well on questions of scientific experimentation and investigation, might well find he is also content to live in a "political" well when faced with the challenges required of the proletariat in today's political world where nothing less than "storming heaven" is required to make revolution and in that sense, conquer this so-called "stable" planet.

Another reader