Walt Whitman was less concerned with the specific science of the atom. Instead, he focused on what the atom represents: the smallest thing that exists throughout regeneration and can be shared.

This WhitGuide contains some history about Whitman’s exposure to chemistry and a poem he wrote.
1

Something startles me where I thought I was safest,
I withdraw from the still woods I loved,
I will not go now on the pastures to walk,
I will not strip the clothes from my body to meet my lover the sea,
I will not touch my flesh to the earth as to other flesh to renew me.

O how can it be that the ground itself does not sink?
How can you be alive you growths of spring?
How can you furnish health you blood of herbs, roots, orchards, grain?
Are they not continually putting distemper’d corpses within you?
Is not every continent work’d over and over with sour dead?

Where have you disposed of their carcasses?
Those drunkenards and gluttons of so many generations?
Where have you drawn off all the foul liquid and meat?
I do not see any of it upon you to-day, or perhaps I am deceived,
I will run a furrow with my plough, I will press my spade through the sod and turn it up underneath,
I am sure I shall expose some of the foul meat.

2

Behold this compost! behold it well!
Perhaps every mite has once form’d part of a sick person—yet behold!
The grass of spring covers the prairies,
The bean bursts noiselessly through the mould in the garden,
The delicate spear of the onion pierces upward,
The apple-buds cluster together on the apple-branches,
The resurrection of the wheat appears with pale visage out of its graves,
The tinge awakes over the willow-tree and the mulberry-tree,
The he-birds carol mornings and evenings while the she-birds sit on their nests,
The young of poultry break through the hatch’d eggs.