Scene One. The woman surrenders herself to the stark white tunnel of the CT machine. Inside there is ominous silence. She knows that what is invisible to her will soon be revealed by the machine as it records the inside of her body in sections – head to toe, side to side and inch by inch. Somewhere else the scans are issuing forth in a room she cannot see to be read by a radiographer she does not know. The woman may never set eyes on them herself. Whatever they show of her – nothing wrong, something wrong, an inkling of her future health – these images may be dense with medical data but they cannot reveal anything of her essential life, neither her inner nor her outer self. CT scans offer no sort of portrait.

Scene Two. The artist thinks otherwise. She has come across the woman’s full-body scan on a website developed by scientists as an open source of software to help other scientists. The dataset, as it is called, consists of thousands of lateral scans. From these images, she can deduce the woman’s age (roughly the artist’s own), that she was married (there is a telltale indentation on the ring finger), that she had a tumour and must have been fearful inside that machine. The woman has a name, Melanix, or at least her scans have that name. She even has an appearance.

Or rather the artist, Marilène Oliver, will bring forth that appearance. She downloads the scans, prints each cross-section on a sheet of transparent acrylic cut to the precise proportions of the woman’s body and then assembles them in the right order. She puts the woman’s body back together again. She remakes her. And then she suspends this figure above a cloud of white ostrich feathers in mid air. Melanix floats weightless and delicate, her body reclining, her arms relaxed above her head: a fragile sleeping beauty, dreaming among the clouds in suspended animation. Whatever she was – or perhaps still is – in real life, Melanix has passed into legend.

Dreamcatcher is one of several works in Marilène Oliver’s new show that have their source in medical images: anonymous CT scans. These scans have an unusual status in her work that is very rare in contemporary art. On the one hand, they are a direct form of source material – rather like the photographs on which celebrated painters such as Chuck Close and Gerhard Richter base their portraits. On the other hand, they function rather like genetic code. There is the fundamental data of each human being – this woman, that man – from which Oliver creates a life-sized figure; and then there is the new life, the new behaviour she gives it. A woman tumbles from the sky, arms flailing as she falls. In fact she has been given not two but eight arms, like the Hindu goddess Durga, in the hope that she may catch others before they fall to their deaths. The figure stops short, frozen just above the ground; it is – she is? – spectral as a ghost, formed of pale translucent plastic.
Another figure arches backwards, like a graceful ballet dancer or an acrobat, her articulated form twinkling with thousands of tiny beads. A third splits open, revealing her innermost organs traced in glittering patterns, a full-bodied female presence fashioned of something soft and crimson and opening up, as it seems, into an embrace.

These sculptures are clearly a long way from the original scans, a long way from hard data. They seem to be spinning off into fantasy. And perhaps they appear very distant from Oliver’s earliest works, now in public collections such as the Wellcome Trust and the Victoria & Albert Museum, which seemed so much closer to the medical images.

But my sense is that there is, in fact, a deep and poetic connection.

One of Oliver’s first major works was Family Portrait in which the four figures of the artist, her father, mother and sister were derived from MRI scans silk-screened on to ninety clear acrylic sheets stacked in order. The figures were fugitive, appearing and disappearing according to where you stood to look at these see-through columns in which the human form was refracted as if through layers of glass.

Oliver reported that many viewers thought they were looking at figures somehow fashioned out of smoke. How apt – and how poignant – because the artist’s family were all living in separate places after her parents’ divorce. Oliver’s mother even held out her hands during the MRI scan, ‘in the hope that ours would join hers’.

The four members of the family are there and not there. You can identify them, more or less, and even detect a certain family resemblance, but you can also see the gaps between these layers of prints, the spaces in which there is nothing at all. The datasets from which they are conjured are real and precise, but the reunion is a figment, a work of wishful thinking in which the family is brought back together again only as elusive chimera.

This beautiful installation gets its visual and metaphorical strength from Oliver’s singular way of working, the way she uses flat prints to make fully rounded figures. Her medium is fundamentally two-dimensional – prints stacked or interleaved – but it partakes of three dimensions.

An extraordinary fact about Oliver is that she sees herself as a printmaker, and not a sculptor. That she is able to interpret scans, to imagine them in aggregate as full-body forms, puts her on a par with the most expert radiographer. That the prints she makes accumulate into figures that closely resemble sculptures by anyone’s definition seems less important to her than the idea of delving into the computer to rescue datasets trapped in the digital realm and body them forth in the world of actual people.

Lately, Oliver’s works have ceased to be portraits by other means – of her family, of herself kissing her future husband – and are now approaching something more like archetypes. The sleeping beauty, the goddess, the carnival queen: all are reinterpreted, or reinvented, through this hybrid of print and sculpture.

The look of her figures is shifting too. Since moving to Rio with her geo-scientist husband, Oliver has absorbed many aspects of Brazilian culture. In Brazil, she writes, ‘I have seen much I covet: samba queen costumes made of thousands of ostrich feathers, a ruby laden bloody Christ, tree trunks painted and decorated to commemorate the Indian Xingu dead, mysterious candomblé rituals.’ All leave their traces in this show.

Even a darkly dramatic work like Protest – in which a black figure, suspended by jewelled threads from the ceiling, appears to burst open, spilling its inner life in ribbons that tumble to the floor, is finely crafted using brilliant ruby beads and delicate curls of paper upon which the text of Home Office documents is faintly legible. This is a political martyrdom - Oliver was inspired by the case of an asylum seeker who killed himself – transformed into an elegy through the artist’s painstaking aesthetic. The body is redeemed in just the same way that Melanix is rescued from the computer’s dataset, as if Oliver was reasserting the importance of the
human and handmade.

The female figure that bends backwards in an improbable arc is fanning out into chapters, her layers like the leaves of a book, revealing inner arteries and organs described in glittering beads. She is hallucinating, spell-bound, caught in a trance like those Brazilian candomblé dancers who have whirled all night and are finally receiving ancestral spirits.

She is also Melanix freed from the destiny revealed in her medical scan. No matter how impersonal the technology, no matter how theoretical the science that supports them, Oliver’s works are full of potent dreams. And though it takes the most sophisticated artificial intelligence to acquire the medical data, the very simplest technology transforms it into art. Oliver prints in ink or acrylic, often using basic silk-screen techniques. She works with silver beads and nylon thread, feathers and MDF, fishing wire, gold and bronze ink. The separate layers of the dancer Orixa, as she is called, are printed on a cork-like rubber; each of the numberless seed beads that describe her contours is patiently hand-stitched. No matter how close to the bone the medical dataset of the original patient may be, the aesthetic is always delicate, verging on ethereal.

In Shredded, the artist’s own body scans are printed on to clear film and then shredded open. The shape of the figure is still just about discernible in the tangle of shreddings that halo the form like thistledown. The figure is downy, furry, strangely primitive for all the complex processes involved in its making. It might be contemporary, or it might be the relic of a woman who existed thousands of years ago.

Oliver has mobilised the Ice Man found in 1991 in the Alps: taken his MRI scans and whipped them up into a three-dimensional figure. This long-dead man appears in the round, one arm dramatically raised, legs stretched, on tiptoe almost as if pirouetting. It is something the computer can do too, of course, but what Oliver does is free the figure from inside this box of tricks where everything is broken down into fractional bytes.

Her latest works are leaving the computer further behind every time. One feels Oliver could make Melanix almost without resort to the original dataset, so completely has this figure become her protean Everywoman – the mother, the saviour, the goddess, the priestess, the sleeping beauty.

But what is so distinctive about Oliver’s art is its spectral nature. Her figures are life-sized, so that you confront them one to one, as in a real human encounter. Yet they are not quite human in appearance. Fantastical, ghostly, weightless, fragile as an insect’s wings, all they really share with mankind is a vestigial outward appearance. Virtuality, that most elusive of states, has become part of their content. They are such stuff as dreams are made on: avatars finding three-dimensional form in the world of contemporary art.