Montessori used the term *nebulae* as an analogue. Nebulae in the universe are gases and dust particles that have the potential to spontaneously come together to form stars and planets in the heavens.

Montessori says that within the child there exist potentialities also. The potentialities Montessori named *nebulae*. The potentialities spontaneously incarnate the behavioral characteristics of the culture.

♦ *Nebulae have the potential to become stars and planets*

♦ *Nebulae have the potentiality to incarnate the culture of the environment*

Montessori sets forth the construct that as nebulae reside in the heavens, the *nebulae* reside in the spiritual embryo within each child.

The physical embryo contains hereditary potentials (genes); the spiritual embryo contains psychic potentialities (*nebulae)*.

These *nebulae*, or potentialities, spontaneously adapt and develop in response to the cultural environment in which the child is born. Through this adaptation process the potentialities develop into the behavioral characteristics of that culture.

Animals exhibit fixed specialized behavior or hereditary characteristics at birth. The animal’s adaptation to the environment is merely to exercise these fixed specialized behaviors. In exercising their fixed specialized behaviors the animal preserves the species and contributes to the total functioning of nature, which is the cosmic purpose.

**Animals have:**

♦ Fixed specialized behaviors
♦ Hereditary characteristics of the species
♦ Characteristic functions

Humans are nearly motionless and mute at birth. Humans do not exhibit fixed specialized behavior.

**Humans do not have:**

♦ Fixed specialized behaviors
♦ Hereditary characteristics of the species
♦ Characteristic functions
Humans have the potentiality to incarnate from the cultural of birth:
♦ Specialized behaviors
♦ Characteristics of the culture
♦ Characteristic functions

The human’s potential to adaptation to any cultural environment is unlimited because he does not have specialized behaviors at birth, he is ready to incarnate the characteristics of the culture, and he exhibits the characteristic functions of the culture of birth.

The progress of culture is predicated on potentialities (*Nebulae*) rather than fixed specialized behavior. Fixed specialized behavior rigidly enforces stereotypical behavior as found in animals. The *nebulae* allow for an elastic adaptation of the behavior characteristics of the culture.

**Humans have the potential to actually change the characteristics of the culture!**

The long length of human childhood is a distinguishing feature from the rest of the animal kingdom. The function of this long period of childhood is to adapt to the culture of birth in both time and place.

For example, the infant has the potential for language acquisition, but no particular language at birth. At two years old the child exhibits an explosion of language – the language to which the child has been exposed no matter the complexity or the simplicity of the language. During these two years the child has been relatively mute but within himself has absorbed the totality of the language. This first language has been absorbed into the child’s psyche effortlessly and as a whole in a manner different from any language acquired later in life. The infant has incarnated the language during the period from birth to three years, and has stored the language in the unconscious memory called the *mneme*.

**The internal influences within the child that support the development of the potentialities (*nebulae*) are:**
♦ Sensitive periods
♦ Unconscious absorbent mind

For example, the child has the potentiality for language acquisition. To aid the potentiality the infant has a special sensitivity to the human voice that produces motor reactions in the infant’s vocal chords, tongue, lips, etc. Montessori named this time of special sensitivities *sensitive periods*.

Further, without conscious effort the child absorbs the language of the culture. From birth to three Montessori noticed the child did not really decide to learn the
culture, rather the child unconscious absorbed the information. Montessori named this ability to effortlessly take in the culture the *unconscious absorbent mind*.

Finally, while the potentialities are supported internally by the sensitive periods and the absorbent mind the potentialities must be in contact with cultural life, with the environment. The richness of the social life of the family and the community provide stimulus for the culture to be absorbed.

Firstly, the child requires a full and rich environment. Secondly, the child requires the freedom to work spontaneously and intelligently in the environment. Thus, the human self-constructs himself.

The reconstruction of education must be based upon the recognition of the potentialities of the spiritual embryo, the inner support provided by the sensitive periods and the absorbent mind, the need for a rich and full environment, and the freedom to work (move) spontaneously and intelligently in the environment.

The superior child that results from this education will reconstruct society.

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