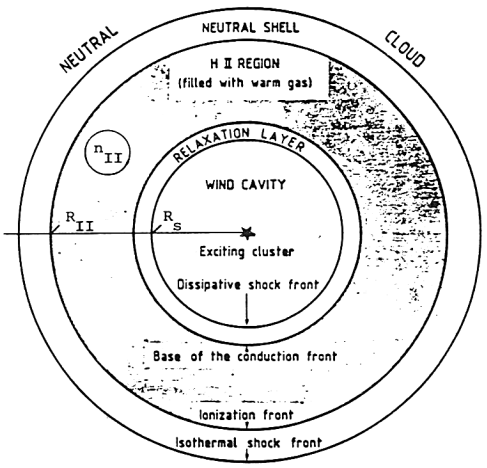

Fig. 1. Structure of an H II region with stellar winds.

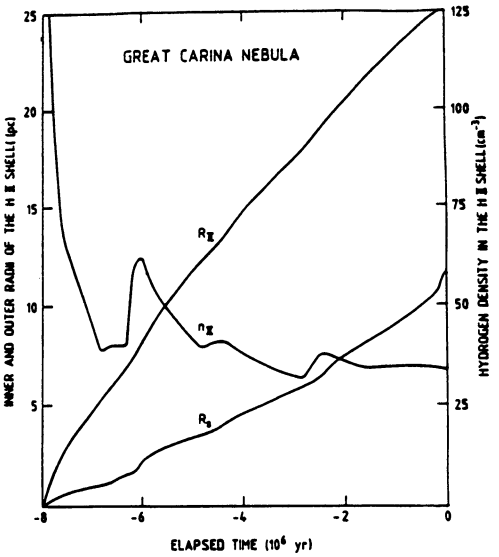

Fig. 2. Time evolution of the Carina nebula.

Dorland, H. *et al.*: 1986, Astron. Astrophys. in press.
Gray, D.R., Kilkenny, J.D.:1980, Plasma Phys. 22, 81.
Kwitter, K.B.: 1981, Astrophys. J. 245, 154.
Leahy, D.A.: 1985, Monthly Notices Roy. Astron. Soc. 217, 69.
Luciani, J.F. *et al.*: Phys. Rev. Lett. 51, 1664.
Luciani, J.F.: 1985, Phys. Fluids 28, 835.
Seward, F.D., and Chlebowski, T.: 1982, Astrophys. J. 256, 530.
Turner, B.E., and Matthews, H.E.: 1984, Astrophys. J. 277, 164.
Weaver, R. *et al.* : 1977, Astrophys. J. 218, 377.

STELLAR ASSOCIATIONS AND REGIONS OF STAR FORMATION

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The genetic nature of the OB and T-Tau stars connection with stellar associations is at present beyond any doubt. They present the characteristic population of the latter. From this important observational fact follows that all young objects connected with OB and T-Tau stars also originated in stellar associations, and hence, are genetically connected with them.

In this paper the observational data on star forming regions are

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discussed in the frame of this idea.

It is shown that radio-observations of optical H II regions, made in the CO-line (J = 1-0) and continuum (at 1400 MHz), are in agreement with the idea, that the connection between H II regions and molecular clouds is a genetic one. Taking into account that most H II regions are genetically connected with the OB-stars exciting them, it is concluded that there exists a genetic connection also between OB-stars and molecular clouds. Therefore, the absence of the associated CO-emission in some H II regions can be explained as a consequence of either observational selection (low surface brightness) or the fact that the corresponding H II regions are excited by OB-stars that already left their "placental" molecular clouds (Mirzoyan and Ambarian, 1986).

The radio-observations of the cosmic masers of H_2O and CO, as well as of the sources of infrared emission, which are the indicators of star forming regions, point out that all of them are located in molecular clouds and H II regions.

Some arguments are presented in favour of the close connection of such extremely young objects as cometary nebulae, fuors and Herbig-Haro objects with T-Tau stars.

At last, the Trapezium type multiple systems which can be considered as important indicators of star formation, in their majority, are the members of stellar associations. Really, the majority of these dynamically instable young systems include the OB and T-Tau stars (Mirzoyan and Salukvadze, 1985).

Thus, one can consider, that *practically all known regions of star formation are constituent parts of stellar associations.*

In this connection, it should be added, that in the first studies of stellar associations, Ambartsumian (1950) has shown that each stellar association contains as a nuclei (centres of star formation) open star clusters and Trapezium type multiple systems. Now, existing observational data give telling grounds to assume that each association can have usually several such nuclei as separate regions of star formation, the dispersion of ages of these subsystems being sometimes more than two orders of magnitude. As a result, stellar groups of different generations can be observed in an association (Ambartsumian and Mirzoyan, 1985).

REFERENCES

Ambartsumian, V.A.: 1950, Izw. Ac. Sci. USSR, Physical Serie 14, 15.
Ambartsumian, V.A., and Mirzoyan, L.V.: 1985, *Birth and Evolution of Massive Stars and Stellar Groups*, eds. Boland, W., and Woerden, van H. (Reidel, Dordrecht-Boston-Lancaster-Tokyo), 67.
Mirzoyan, L.V., and Ambarian, V.V.: 1986, Astrofizika, in press.
Mirzoyan, L.V., and Salukvadze, G.N.: 1985, Astrophys. Space Sci. 110, 153.

https://doi.org/10.1017/S0074180900095528 Published online by Cambridge University Press