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**Review**

# Individualized periodization of Bondarchuk

## Periodización individualizada de Bondarchuk

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## Abstract

Periodization is defined by Professor Doctor Antonio Carlos Gomes of Brazil as all the training process. In 1984 the Soviet of Ukrainian origin Bondarchuk elaborated the individualized periodization for the hammer throw athletes. Bondarchuk was Olympic champion of the hammer throw in 1972 and after the athlete period, Bondarchuk became hammer throw coach, the moment that he developed his periodization. This periodization is called individualized periodization because all the training structure is according to the adaptations of each athlete. This periodization is also called of integrator periodization model because the physical training and the technical and tactical training are elaborated during the same session and/or during the same exercise. This periodization has the development period of the sports form, the maintenance period of the sports form, and the rest period. The intensity is high with a mean of 85 to 90% and the volume has little change during the year. Bondarchuk informed that the peak in your periodization is in 2 to 8 months. The peak of the athlete depends on how the macrocycle is elaborate, of the level competitive of the athletes, what exercises the sportsman practices, and others. In conclusion, individualized periodization of Bondarchuk is content important for the coach to organize the training.

**Key words:** sports; hammer throw; athletic performance; periodization.

**Resumen**

La periodización es definida por el profesor doctor Antonio Carlos Gomes del Brasil como todo el proceso de entrenamiento. En 1984 el soviet de origen ucraniano Bondarchuk elaboró la periodización individualizada para los atletas de lanzamiento de martillo. Bondarchuk fue campeón olímpico del lanzamiento de martillo en 1972 y después del período de atleta, Bondarchuk se convirtió en entrenador de lanzamiento de martillo, en el momento en que desarrolló su periodización. Esta periodización se llama periodización individualizada porque toda la estructura de entrenamiento está de acuerdo con las adaptaciones de cada atleta. Esta periodización también se llama modelo de periodización integrador porque el entrenamiento físico y el entrenamiento técnico y táctico se elaboran durante la misma sesión y/o durante el mismo ejercicio. Esta periodización tiene el período de desarrollo de la forma deportiva, el período de mantenimiento de la forma deportiva y el período de descanso. La intensidad es alta con una media del 85 al 90% y el volumen tiene pocos cambios durante el año. Bondarchuk informó que el pico en su periodización es en 2 a 8 meses. El pico del atleta depende de cómo se elabora el macrociclo, del nivel competitivo de los atletas, de lo que ejercita las prácticas del deportista y otros. En conclusión, la periodización individualizada de Bondarchuk es un contenido importante para que el entrenador organice el entrenamiento.

**Palabras clave:** deportes; lanzamiento de martillo; desempeño atlético; periodización.

**Introduction**

Periodization is defined by Professor Doctor Antonio Carlos Gomes of Brazil that elaborated the Selective Load Periodization in 2001 (Gomes, 2002), as all the training process. Sports periodization started in Ancient Greece with the objective of prepare the athletes for the competitions (Montero, 2019). After the Russian Revolution of 1917, the Russian researchers began to study the periodization with the objective of improving the periodization created by the Greeks (Issurin, 2014; Marques Junior, 2018). During the empirical period (ancient civilization until 1950) of the history of the periodization, the most researchers are from Russia (Kotov in 1917, Gorinevski in 1922, Birsin in 1922, Grantyn in 1939, Ozolin in 1949, and others) (Costa, 2013; Marques Junior, 2017). The traditional period (1950 to 1977) has four periodizations of four Russians (Matveev in 1952, Arosiev and Kalinin in 1971, and Vorobiev in 1974) and the Eastern German Tschiene (Padilla, 2017). Therefore, the Russians contributed a lot with the evolution of the periodization.

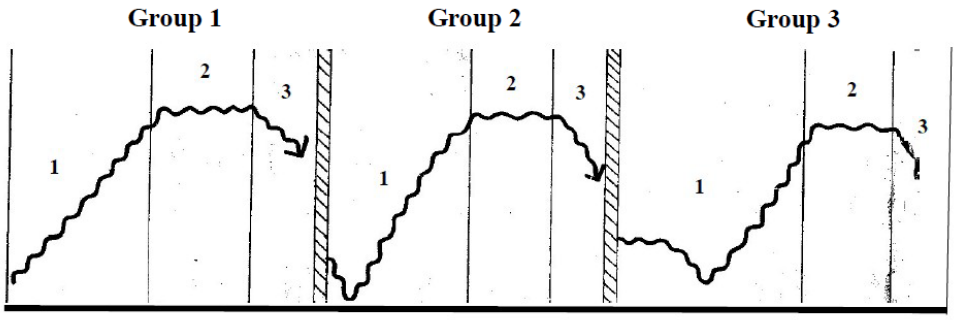
In 1922 the Soviet Union was formed, 14 countries joined Russia to compose this nation. Then, during the contemporary period (1978 to actually) the Soviets continued to elaborate periodization models (the Russian Verkhoshanski in 1979, the Soviets Issurin and Kaverin in 1985, and others) (Issurin, 2010; Silva, 2000). In 1984 the Soviet of Ukrainian origin Bondarchuk elaborated the individualized periodization for the hammer throw athletes (Dias et al., 2016). Bondarchuk was Olympic champion of the hammer throw in 1972 and after the athlete period, Bondarchuk became hammer throw coach, the moment that he developed his periodization.

This periodization is called individualized periodization because all the training structure is according to the adaptations of each athlete (Costa, 2013; Silva, 2000; Dias et al., 2016). This periodization is also called of integrator periodization model because the physical training and the technical and tactical training are elaborated during the same session and/or during the same exercise (Manso, Valdivielso e Caballero, 1996). Therefore, the training is integrated, the physical training with technical and tactical training. This type of training is different from the Matveev`s periodization model because the physical training and the technical and tactical training is practiced separately (Matveev, 1997).

The objective of the review was to teach the individualized periodization of Bondarchuk.

## Content of the Bondarchuk periodization

Bondarchuk periodization all the training is individualized during the training organization, the prescription of the training load and the types of exercises practiced (Silva, 2000). The training individualized occurs because each athlete responds differently to the training. This was evidenced in the study of the Soviet Union with 100 athletes during some years and determined differently the performance sports form during the development period of the sports form (Abrantes, 1992). The group 1 the performance sports form increased immediately, in the group 2 the performance sports form decreases and after increases, and in the group 3 the performance sports form initially does not change, after decreases and increase occur. The maintenance period of the sports form and the rest period the three groups had similar performance sports form. Figure 1 illustrates these results.




**1)** Development period of the sports form, **2)** Maintenance period of the sports form, and **3)** Rest period

**Figure 1.** Performance sports form behavior of each group (Copied of Abrantes, 1992).

Bondarchuk periodization period is organized according to the performance sports form and the coach can elaborate various period structures according to the adaptation responses of the athlete (Silva, 2000; Abrantes, 1992). The periods organized according to the level of adaptation of the athlete have different duration, order, and quantity in the macrocycle (Gomes, 2002). For example, the coach can prescribe in five moments the development period of the sports form or two moments the development period. Then the coach needs to do control tests to determining the level of the performance sports form. This idea is different from the traditional periodization of Matveev (1977) because the duration of each period is according to the competitive calendar. Therefore, Bondarchuk periodization the training is highly individualized. The periods this model are as follows (Silva, 2000; Manso et al., 1996; Abrantes, 1992):

a) Development period of the sports form: The objective of this period is to develop the conditioning capacities and of the technical and tactical work with several types of special preparation exercises and competitive exercises. Most of the exercise is with an integrated work between the physical training and the technical and tactical training. This period the duration is between 2 to 4 months.

b) Maintenance period of the sports form: This period has the objective of practice maintenance of the sports form and/or of cause an improvement of the athlete. The maintenance period the competitive exercises are predominant because during this period occurs the competitions. Most of the exercise is with an integrated work between the physical training and the technical and tactical training. This period the duration is of 3 to 4 weeks. When finished this period 50% of the

exercises deserve to be modified with the objective of not cause stagnation of the performance sports form.

c) Rest period: This period occurs the active rest with predominantly of special preparation exercises and a little competitive exercises. The special preparation exercises and the competitive exercises are with an integrated work between physical training and the technical and tactical training. During this period the coach can prescribe some general preparation exercises for an active rest. This period the duration is of some days to 1 month.

Figure 2 illustrates the structure of the Bondarchuk periodization.

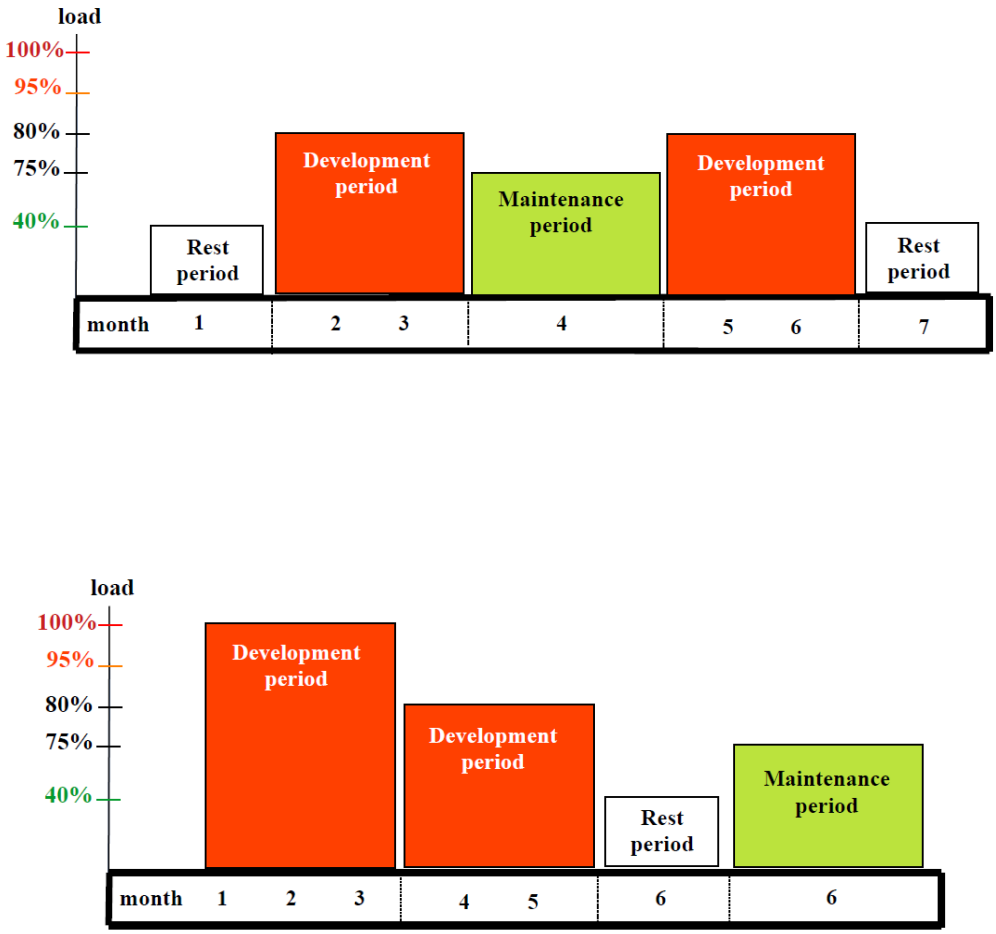



**Figure 2.** Two types of macrocycle of the Bondarchuk periodization.

The intensity is high with a mean of 85 to 90% and the volume has little change during the year (Abrantes, 1992). The authors did not inform about the microcycle for the coach elaborates the

training load (Costa, 2013; Dias et al., 2016). Then the suggestion is to use the shock microcycle (load of 80 to 100%), the recuperative microcycle (load of 10 to 40%), the stabilizer microcycle (load of 40 to 60%), and the competitive microcycle (without load) (Zakharov, 1992). The mesocycle is content important to organizing the macrocycle. Then suggestion has put the mesocycle with a number for the coach know the quantity of mesocycle in the periodization. Figure 3 illustrates this information.

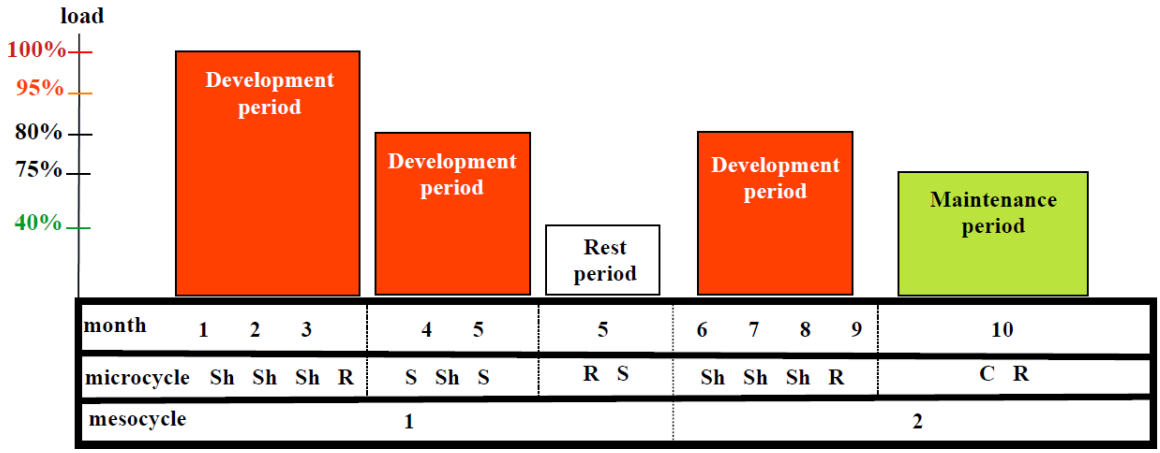



Figure 3. Macrocycle with microcycle and mesocycle.

Bondarchuk informed that the peak in your periodization is in 2 to 8 months (Gomes, 2002). But the peak of the athlete depends on how the macrocycle is elaborate, of the level competitive of the athletes, what exercises the sportsman practices, and others (Silva, 2000). For Bondarchuk is very important the choice of the exercises of each period for the hammer throw athlete has the peak during the competitive period. The criterion of choice of the exercises is follows (Abrantes, 1992):

a) degree of complexity of the exercises,

b) difficulty of execution of the exercises,

c) effort caused by exercises,

d) and specificity of the exercise.

During the elaboration of the exercise, the physical training and the technical and tactical training are integrated. Manso et al. (1996) wrote some exercises with the integrated training indicated by Bondarchuk. The exercise is follows:

a) heavier hammer throw (special strength preparation and technical training),

b) ballistic squat and after hammer throw (post-activation potentiation for technical work),

c) plyometric training and after hammer throw (improve explosive strength of the legs for improve the hammer throw), and others exercises.

The article taught the contents of the individualized periodization of Bondarchuk for the coach to prescribe for your athletes. Figure 4 shows the creator of this model.


**Figure 4.** Soviet Anatoly Bondarchuk that elaborated the individualized periodization. (Accessed from https://alchetron.com/Anatoliy-Bondarchuk).

## Conclusion

Bondarchuk periodization is a model that the coach elaborates with the use of the principle of the adaptation and the principle of the biological individuality. This periodization model is for hammer throw athletes and had an interesting training methodology that resulted in several Olympic champions. In conclusion, individualized periodization of Bondarchuk is content important for the coach to organize the training.

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